

## SEQUENCE LISTING

&lt;110&gt; HYBRIGENICS

<120> SID nucleic acids and polypeptides selected from a  
pathogenic strain of the hepatitis C virus and  
applications

&lt;130&gt; B4809A - JAZ

&lt;140&gt; U.S.

&lt;141&gt; 2001-07-27

&lt;150&gt; EP 00402225.7

&lt;151&gt; 2000-08-03

&lt;160&gt; 156

&lt;170&gt; PatentIn Ver. 2.1

&lt;210&gt; 1

&lt;211&gt; 50

&lt;212&gt; PRT

&lt;213&gt; Hepatitis C virus

&lt;400&gt; 1

Leu Leu Pro Arg Arg Gly Pro Arg Leu Gly Val Arg Ala Thr Arg Lys  
1 5 10 15

Thr Ser Glu Arg Ser Gln Pro Arg Gly Arg Arg Gln Pro Ile Pro Lys  
20 25 30

Ala Arg Arg Pro Glu Gly Arg Thr Trp Ala Gln Pro Gly Tyr Pro Trp  
35 40 45

Pro Leu  
50

&lt;210&gt; 2

&lt;211&gt; 35

&lt;212&gt; PRT

&lt;213&gt; Hepatitis C virus

&lt;400&gt; 2

Gly Arg Gly Lys Pro Gly Ile Tyr Arg Phe Val Ala Pro Gly Glu Arg  
1 5 10 15

Pro Ser Gly Met Phe Asp Ser Ser Val Leu Cys Glu Cys Tyr Asp Ala  
20 25 30

Gly Cys Ala  
35

&lt;210&gt; 3

&lt;211&gt; 77

&lt;212&gt; PRT

&lt;213&gt; Hepatitis C virus

00921397-080201  
1020801

Asn	Thr	Asn	Arg	Arg	Pro	Gln	Asp	Val	Lys	Phe	Pro	Gly	Gly	Gly	Gln
1				5					10					15	
Ile	Val	Gly	Gly	Val	Tyr	Leu	Leu	Pro	Arg	Arg	Gly	Pro	Arg	Leu	Gly
			20					25					30		
Val	Arg	Ala	Thr	Arg	Lys	Thr	Ser	Glu	Arg	Ser	Gln	Pro	Arg	Gly	Arg
		35					40					45			
Arg	Gln	Pro	Ile	Pro	Lys	Ala	Arg	Arg	Pro	Glu	Gly	Arg	Thr	Trp	Ala
	50					55					60				
Gln	Pro	Gly	Tyr	Pro	Trp	Pro	Leu	Tyr	Gly	Asn	Glu	Gly			
65					70					75					

<213> Hepatitis C virus

Pro Ser Pro Val Val Val Gly Thr Thr Asp Arg Ser Gly Ala Pro Thr  
1 5 10 15

Tyr Ser Trp Gly Ala Asn Asp Thr Asp Val Phe Val Leu Asn Asn Thr  
20 25 30

Arg Pro Pro Leu Gly  
35

<213> Hepatitis C virus

Ser Arg Thr Gln Arg Arg Gly Arg Thr Gly Arg Gly Lys Pro Gly Ile  
1 5 10 15

Tyr Arg Phe Val Ala Pro Gly Glu Arg Pro Ser Gly Met Phe Asp Ser  
20 25 30

Ser Val Leu Cys Glu Cys Tyr Asp Ala Gly Cys Ala Trp Tyr Glu Leu  
35 40 45

Thr Pro Ala Glu Thr Thr Val Arg Leu Arg Ala Tyr Met Asn Thr Pro  
50 55 60

Gly Leu Pro Val Cys Gln Asp His Leu Glu Phe Trp Glu Gly Val Phe  
65 70 75 80

Thr Gly Leu Thr His Ile Asp Ala His Phe Leu Ser Gln Thr Lys Gln  
85 90 95

Ser Gly Glu Asn Phe Pro Tyr Leu Val Ala Tyr Gln Ala Thr Val Cys

**SECRET**

100

105

110

Ala Arg Ala Gln Ala Pro Pro Pro Ser Trp Asp Gln Met Trp Lys Cys  
 115 120 125

Leu Ile Arg Leu Lys Pro Thr Leu His Gly Pro Thr Pro Leu Leu Tyr  
 130 135 140

Arg Leu Gly Ala Val Gln  
 145 150

<210> 6  
 <211> 28  
 <212> PRT  
 <213> Hepatitis C virus

<400> 6  
 Pro Ser Pro Val Val Val Gly Thr Thr Asp Arg Ser Gly Ala Pro Thr  
 1 5 10 15

Tyr Ser Trp Gly Ala Asn Asp Thr Asp Val Phe Val  
 20 25

<210> 7  
 <211> 26  
 <212> PRT  
 <213> Hepatitis C virus

<400> 7  
 Pro Pro Arg Pro Cys Gly Ile Val Pro Ala Lys Ser Val Cys Gly Pro  
 1 5 10 15

Val Tyr Cys Phe Thr Pro Ser Pro Val Val  
 20 25

<210> 8  
 <211> 54  
 <212> PRT  
 <213> Hepatitis C virus

<400> 8  
 Cys Val Val Ile Val Gly Arg Ile Val Leu Ser Gly Lys Pro Ala Ile  
 1 5 10 15

Ile Pro Asp Arg Glu Val Leu Tyr Gln Glu Phe Asp Glu Met Glu Glu  
 20 25 30

Cys Ser Gln His Leu Pro Tyr Ile Glu Gln Gly Met Met Leu Ala Glu  
 35 40 45

Gln Phe Lys Gln Lys Ala  
 50

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<210> 9  
 <211> 40  
 <212> PRT  
 <213> Hepatitis C virus

<400> 9  
 Gly Asp Phe Asp Ser Val Ile Asp Cys Asn Thr Cys Val Thr Gln Thr  
 1 5 10 15  
 Val Asp Phe Ser Leu Asp Pro Thr Phe Thr Ile Glu Thr Thr Thr Leu  
 20 25 30  
 Pro Gln Asp Ala Val Ser Arg Thr  
 35 40

<210> 10  
 <211> 28  
 <212> PRT  
 <213> Hepatitis C virus

<400> 10  
 Glu Arg Pro Ser Gly Met Phe Asp Ser Ser Val Leu Cys Glu Cys Tyr  
 1 5 10 15  
 Asp Ala Gly Cys Ala Trp Tyr Glu Leu Thr Pro Ala  
 20 25

<210> 11  
 <211> 27  
 <212> PRT  
 <213> Hepatitis C virus

<400> 11  
 Arg Gly Lys Pro Gly Ile Tyr Arg Phe Val Ala Pro Gly Glu Arg Pro  
 1 5 10 15  
 Ser Gly Met Phe Asp Ser Ser Val Leu Cys Glu  
 20 25

<210> 12  
 <211> 42  
 <212> PRT  
 <213> Hepatitis C virus

<400> 12  
 Leu Glu Asp Ser Val Thr Pro Ile Asp Thr Thr Ile Met Ala Lys Asn  
 1 5 10 15  
 Glu Val Phe Cys Val Gln Pro Glu Lys Gly Gly Arg Lys Pro Ala Arg  
 20 25 30  
 Leu Ile Val Phe Pro Asp Leu Gly Val Arg  
 35 40

002080" 16572600

<210> 13  
 <211> 28  
 <212> PRT  
 <213> Hepatitis C virus

<400> 13  
 Pro Thr Gly Ser Gly Lys Ser Thr Lys Val Pro Ala Ala Tyr Ala Ala  
 1 5 10 15  
 Gln Gly Tyr Lys Val Leu Val Leu Asn Pro Ser Val  
 20 25

<210> 14  
 <211> 33  
 <212> PRT  
 <213> Hepatitis C virus

<400> 14  
 Glu Arg Pro Tyr Cys Trp His Tyr Pro Pro Arg Pro Cys Gly Ile Val  
 1 5 10 15  
 Pro Ala Lys Ser Val Cys Gly Pro Val Tyr Cys Phe Thr Pro Ser Pro  
 20 25 30  
 Val

<210> 15  
 <211> 31  
 <212> PRT  
 <213> Hepatitis C virus

<400> 15  
 Pro Ser Pro Val Val Val Gly Thr Thr Asp Arg Ser Gly Ala Pro Thr  
 1 5 10 15  
 Tyr Ser Trp Gly Ala Asn Asp Thr Asp Val Phe Val Leu Asn Asn  
 20 25 30

<210> 16  
 <211> 77  
 <212> PRT  
 <213> Hepatitis C virus

<400> 16  
 Ala Gly Ala Leu Val Ala Phe Lys Ile Met Ser Gly Glu Val Pro Ser  
 1 5 10 15  
 Thr Glu Asp Leu Val Asn Leu Leu Pro Ala Ile Leu Ser Pro Gly Ala  
 20 25 30  
 Leu Val Val Gly Val Val Cys Ala Ala Ile Leu Arg Arg His Val Gly  
 35 40 45

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Pro Gly Glu Gly Ala Val Gln Trp Met Asn Arg Leu Ile Ala Phe Ala  
 50 55 60

Ser Arg Gly Asn His Val Ser Pro Thr His Tyr Val Pro  
 65 70 75

<210> 17

<211> 147

<212> PRT

<213> Hepatitis C virus

<400> 17

Glu Val Gln Ile Val Ser Thr Ala Thr Gln Thr Phe Leu Ala Thr Cys  
 1 5 10 15

Ile Asn Gly Val Cys Trp Thr Val Tyr His Gly Ala Gly Thr Arg Thr  
 20 25 30

Ile Ala Ser Pro Lys Gly Pro Val Ile Gln Met Tyr Thr Asn Val Asp  
 35 40 45

Gln Asp Leu Val Gly Trp Pro Ala Pro Gln Gly Ser Arg Ser Leu Thr  
 50 55 60

Pro Cys Thr Cys Gly Ser Ser Asp Leu Tyr Leu Val Thr Arg His Ala  
 65 70 75 80

Asp Val Ile Pro Val Arg Arg Arg Gly Asp Ser Arg Gly Ser Leu Leu  
 85 90 95

Ser Pro Arg Pro Ile Ser Tyr Leu Lys Gly Ser Ser Gly Gly Pro Leu  
 100 105 110

Leu Cys Pro Ala Gly His Ala Val Gly Leu Phe Arg Ala Ala Val Cys  
 115 120 125

Thr Arg Gly Val Ala Lys Ala Val Asp Phe Ile Pro Val Glu Asn Leu  
 130 135 140

Gly Thr Thr  
 145

<210> 18

<211> 36

<212> PRT

<213> Hepatitis C virus

<400> 18

Val Thr Gln Leu Leu Arg Arg Leu His Gln Trp Ile Ser Ser Glu Cys  
 1 5 10 15

Thr Thr Pro Cys Ser Gly Ser Trp Leu Arg Asp Ile Trp Asp Trp Ile  
 20 25 30

Cys Glu Val Leu  
 35

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<210> 19  
 <211> 28  
 <212> PRT  
 <213> Hepatitis C virus

<400> 19  
 Val Cys Gly Pro Val Tyr Cys Phe Thr Pro Ser Pro Val Val Val Gly  
 1 5 10 15  
 Thr Thr Asp Arg Ser Gly Ala Pro Thr Tyr Ser Trp  
 20 25

<210> 20  
 <211> 45  
 <212> PRT  
 <213> Hepatitis C virus

<400> 20  
 Pro Pro Leu Arg Ala Trp Arg His Arg Ala Arg Ser Val Arg Ala Arg  
 1 5 10 15  
 Leu Leu Ser Arg Gly Gly Arg Ala Ala Ile Cys Gly Lys Tyr Leu Phe  
 20 25 30  
 Asn Trp Ala Val Arg Thr Lys Leu Lys Leu Thr Pro Ile  
 35 40 45

<210> 21  
 <211> 86  
 <212> PRT  
 <213> Hepatitis C virus

<400> 21  
 Thr Ala Phe Val Gly Ala Gly Leu Ala Gly Ala Ala Ile Gly Ser Val  
 1 5 10 15  
 Gly Leu Gly Lys Val Leu Val Asp Ile Leu Ala Gly Tyr Gly Ala Gly  
 20 25 30  
 Val Ala Gly Ala Leu Val Ala Phe Lys Ile Met Ser Gly Glu Val Pro  
 35 40 45  
 Ser Thr Glu Asp Leu Val Asn Leu Leu Pro Ala Ile Leu Ser Pro Gly  
 50 55 60  
 Ala Leu Val Val Gly Val Val Cys Ala Ala Ile Leu Arg Arg His Val  
 65 70 75 80  
 Gly Pro Gly Glu Gly Ala  
 85

<210> 22  
 <211> 43

<212> PRT

<213> Hepatitis C virus

<400> 22

Gly Ile Val Pro Ala Lys Ser Val Cys Gly Pro Val Tyr Cys Phe Thr  
1 5 10 15

Pro Ser Pro Val Val Val Gly Thr Thr Asp Arg Ser Gly Ala Pro Thr  
20 25 30

Tyr Ser Trp Gly Ala Asn Asp Thr Asp Val Phe  
35 40

<210> 23

<211> 63

<212> PRT

<213> Hepatitis C virus

<400> 23

Val Leu Val Asp Ile Leu Ala Gly Tyr Gly Ala Gly Val Ala Gly Ala  
1 5 10 15

Leu Val Ala Phe Lys Ile Met Ser Gly Glu Val Pro Ser Thr Glu Asp  
20 25 30

Leu Val Asn Leu Leu Pro Ala Ile Leu Ser Pro Gly Ala Leu Val Val  
35 40 45

Gly Val Val Cys Ala Ala Ile Leu Arg Arg His Val Gly Pro Gly  
50 55 60

<210> 24

<211> 29

<212> PRT

<213> Hepatitis C virus

<400> 24

Glu Arg Pro Tyr Cys Trp His Tyr Pro Pro Arg Pro Cys Gly Ile Val  
1 5 10 15

Pro Ala Lys Ser Val Cys Gly Pro Val Tyr Cys Phe Thr  
20 25

<210> 25

<211> 76

<212> PRT

<213> Hepatitis C virus

<400> 25

Arg Arg His Trp Thr Thr Gln Asp Cys Asn Cys Ser Ile Tyr Pro Gly  
1 5 10 15

His Ile Thr Gly His Arg Met Ala Trp Asp Met Met Met Asn Trp Ser  
20 25 30

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Pro Thr Ala Ala Leu Val Val Ala Gln Leu Leu Arg Ile Pro Gln Ala  
 35 40 45

Ile Met Asp Met Ile Ala Gly Ala His Trp Gly Val Leu Ala Gly Ile  
 50 55 60

Ala Tyr Phe Ser Met Val Gly Asn Trp Ala Lys Val  
 65 70 75

<210> 26

<211> 37

<212> PRT

<213> Hepatitis C virus

<400> 26

Ala Ile Leu Ser Ser Leu Thr Val Thr Gln Leu Leu Arg Arg Leu His  
 1 5 10 15

Gln Trp Ile Ser Ser Glu Cys Thr Thr Pro Cys Ser Gly Ser Trp Leu  
 20 25 30

Arg Asp Ile Trp Asp  
 35

<210> 27

<211> 47

<212> PRT

<213> Hepatitis C virus

<400> 27

Val Ser Arg Thr Gln Arg Arg Gly Arg Thr Gly Arg Gly Lys Pro Gly  
 1 5 10 15

Ile Tyr Arg Phe Val Ala Pro Gly Glu Arg Pro Ser Gly Met Phe Asp  
 20 25 30

Ser Ser Val Leu Cys Glu Cys Tyr Asp Ala Gly Cys Ala Trp Tyr  
 35 40 45

<210> 28

<211> 53

<212> PRT

<213> Hepatitis C virus

<400> 28

Leu Pro Ala Pro Asn Tyr Lys Phe Ala Leu Trp Arg Val Ser Ala Glu  
 1 5 10 15

Glu Tyr Val Glu Ile Arg Arg Val Gly Asp Phe His Tyr Val Ser Gly  
 20 25 30

Met Thr Thr Asp Asn Leu Lys Cys Pro Cys Gln Ile Pro Ser Pro Glu  
 35 40 45

Phe Phe Thr Glu Leu

50

<210> 29  
 <211> 112  
 <212> PRT  
 <213> Hepatitis C virus

<400> 29  
 Gly Glu Ile Pro Phe Tyr Gly Lys Ala Ile Pro Leu Glu Val Ile Lys  
 1 5 10 15

Gly Gly Arg His Leu Ile Phe Cys His Ser Lys Lys Lys Cys Asp Glu  
 20 25 30

Leu Ala Ala Lys Leu Val Ala Leu Gly Ile Asn Ala Val Ala Tyr Tyr  
 35 40 45

Arg Gly Leu Asp Val Ser Val Ile Pro Thr Ser Gly Asp Val Val Val  
 50 55 60

Val Ser Thr Asp Ala Leu Met Thr Gly Phe Thr Gly Asp Phe Asp Ser  
 65 70 75 80

Val Ile Asp Cys Asn Thr Cys Val Thr Gln Thr Val Asp Phe Ser Leu  
 85 90 95

Asp Pro Thr Phe Thr Ile Glu Thr Thr Thr Leu Pro Gln Asp Ala Val  
 100 105 110

<210> 30  
 <211> 54  
 <212> PRT  
 <213> Hepatitis C virus

<400> 30  
 Val Cys Ala Ala Ile Leu Arg Arg His Val Gly Pro Gly Glu Gly Ala  
 1 5 10 15

Val Gln Trp Met Asn Arg Leu Ile Ala Phe Ala Ser Arg Gly Asn His  
 20 25 30

Val Ser Pro Thr His Tyr Val Pro Glu Ser Asp Ala Ala Ala Arg Val  
 35 40 45

Thr Ala Ile Leu Ser Ser  
 50

<210> 31  
 <211> 102  
 <212> PRT  
 <213> Hepatitis C virus

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Thr Gly Arg Gly Lys Pro Gly Ile Tyr Arg Phe Val Ala Pro Gly Glu  
35 40 45

Arg Pro Ser Gly Met Phe Asp Ser Ser Val Leu Cys Glu  
50 55 60

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<210> 34
<211> 77
<212> PRT
<213> Hepatitis C virus
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<400> 34
Val Leu Asp Ser His Tyr Gln Asp Val Leu Lys Glu Val Lys Ala Ala
  1             5             10             15
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Ala Ser Lys Val Lys Ala Asn Leu Leu Ser Val Glu Glu Ala Cys Ser  
20 25 30

Leu Thr Pro Pro His Ser Ala Lys Ser Lys Phe Gly Tyr Gly Ala Lys  
35 40 45

Asp Val Arg Cys His Ala Arg Lys Ala Val Ala His Ile Asn Ser Val  
50 55 60

Trp Lys Asp Leu Leu Glu Asp Ser Val Thr Pro Ile Asp  
65 70 75

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<210> 35
<211> 26
<212> PRT
<213> Hepatitis C virus
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```
<400> 35
Tyr Pro Pro Arg Pro Cys Gly Ile Val Pro Ala Lys Ser Val Cys Gly
  1             5             10             15
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Pro Val Tyr Cys Phe Thr Pro Ser Pro Val  
20 25

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<210> 36
<211> 37
<212> PRT
<213> Hepatitis C virus
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<400> 36  
Pro Ile Ser Tyr Ala Asn Gly Ser Gly Leu Asp Glu Arg Pro Tyr Cys  
1 5 10 15

Trp His Tyr Pro Pro Arg Pro Cys Gly Ile Val Pro Ala Lys Ser Val  
20 25 30

Cys Gly Pro Val Tyr  
35

<210> 37

<211> 35  
 <212> PRT  
 <213> Hepatitis C virus

<400> 37  
 Thr Val Thr Gln Leu Leu Arg Arg Leu His Gln Trp Ile Ser Ser Glu  
 1 5 10 15  
 Cys Thr Thr Pro Cys Ser Gly Ser Trp Leu Arg Asp Ile Trp Asp Trp  
 20 25 30  
 Ile Cys Glu  
 35

<210> 38  
 <211> 25  
 <212> PRT  
 <213> Hepatitis C virus

<400> 38  
 Leu Leu Arg Arg Leu His Gln Trp Ile Ser Ser Glu Cys Thr Thr Pro  
 1 5 10 15  
 Cys Ser Gly Ser Trp Leu Arg Asp Ile  
 20 25

<210> 39  
 <211> 152  
 <212> DNA  
 <213> Hepatitis C virus

<400> 39  
 cttgttgccg cgcaggggcc ctagattggg tgtgcgcgcg acgaggaaga cttccgagcg 60  
 gtcgcaacct cgaggtagac gtcagcctat ccccaaggca cgtcggcccc agggcaggac 120  
 ctgggctcag cccgggtacc cttggcccct ct 152

<210> 40  
 <211> 106  
 <212> DNA  
 <213> Hepatitis C virus

<400> 40  
 tggcaggggg aagccaggca tctatagatt tgtggcaccg ggggagcgcc cctccggcat 60  
 gttcgactcg tccgtcctct gtgagtgcta tgacgcgggc tgtgct 106

<210> 41  
 <211> 234  
 <212> DNA  
 <213> Hepatitis C virus

<400> 41  
 taacaccaac cgtcgccac aggacgtcaa gttcccgggt ggcggtcaga tcgttggtgg 60  
 agtttacttg ttgccgcga ggggccctag attgggtgtg cgcgcgacga ggaagacttc 120  
 cgagcggtcg caacctcgag gtagacgtca gcctatcccc aaggcacgtc ggcccaggag 180  
 caggacctgg gtcagcccg ggtacccttg gccctctat ggcaatgagg gttg 234

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<210> 42  
 <211> 114  
 <212> DNA  
 <213> Hepatitis C virus

<400> 42  
 tcccagcccc gtggtggtgg gaacgaccga caggtcgggc gcgcctacct acagctgggg 60  
 tgcaaatgat acggatgtct tcgtccttaa caacaccagg ccaccgctgg gcaa 114

<210> 43  
 <211> 453  
 <212> DNA  
 <213> Hepatitis C virus

<400> 43  
 ctccaggact caacgccggg gcaggactgg cagggggaag ccaggcatct atagatttgt 60  
 ggcaccgggg gagcgccct ccggcatgtt cgactcgtcc gtccctctgtg agtgctatga 120  
 gcgggctgt gcttggtatg agctcacgcc cgccgagact acagttaggc tacgagcgta 180  
 catgaacacc ccggggcttc ccgtgtgcca ggaccatctt gaattttggg agggcgtctt 240  
 tacgggcttc actcatatag atgcccactt tttatcccag acaaagcaga gtggggagaa 300  
 ctttccttac ctggtagcgt accaagccac cgtgtgcgct agggctcaag cccctccccc 360  
 atcgtgggac cagatgtgga agtgtttgat ccgccttaaa cccacctcc atgggccaac 420  
 accctgcta tacagactgg gcgctgttca gaa 453

<210> 44  
 <211> 85  
 <212> DNA  
 <213> Hepatitis C virus

<400> 44  
 tcccagcccc gtggtggtgg gaacgaccga caggtcgggc gcgcctacct acagctgggg 60  
 tgcaaatgat acggatgtct tcgtc 85

<210> 45  
 <211> 80  
 <212> DNA  
 <213> Hepatitis C virus

<400> 45  
 ccctccaaga ccttgtggca ttgtgcccgc aaagagcgtg tgtggcccgg tatattgctt 60  
 cactcccagc cccgtggtgg 80

<210> 46  
 <211> 165  
 <212> DNA  
 <213> Hepatitis C virus

<400> 46  
 ctgcgtggtc atagtgggca ggatcgtctt gtccgggaag ccggcaatta tacctgacag 60  
 ggaggttctc taccaggagt tcgatgagat ggaagagtgc ttcagcact taccgtacat 120  
 cgagcaaggg atgatgctcg ctgagcagtt caagcagaag gccct 165

<210> 47  
 <211> 123

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 022080 26E2660



<211> 95  
 <212> DNA  
 <213> Hepatitis C virus

<400> 53  
 tcccagcccc gtggtggtgg gaacgaccga caggtcgggc ggcctacct acagctggg 60  
 tgcaaatgat acgatgtct tcgtccttaa caaca 95

<210> 54  
 <211> 234  
 <212> DNA  
 <213> Hepatitis C virus

<400> 54  
 ggcgggagct cttgtagcat tcaagatcat gagcggtag gtcctcca cggaggacct 60  
 ggtcaatctg ctgcccgcga tctctcgcc tggagccctt gtatcggtg tggctgcgc 120  
 agcaatactg cgccggcacg ttggcccggt cgagggggca gtgcaatga tgaaccggct 180  
 aatagccttc gctcccggg ggaaccatgt ttccccacg cactacgtgc cgga 234

<210> 55  
 <211> 442  
 <212> DNA  
 <213> Hepatitis C virus

<400> 55  
 tgagggtccag atcgtgtcaa ctgtaccca aaccttctg gcaacgtgca tcaatggggt 60  
 atgtgtgact gtctaccacg gggccggaac gaggaccatc gcatcaccca agggtcctgt 120  
 catccagatg tataccaatg tggaccaaga cttgtgggc tggcccgctc ctcaagggtc 180  
 ccgtcattg acaccctgta cctgcggctc ctcgacctt tacctggtca cgaggcacgc 240  
 cgatgtcatt cccgtgcgcc ggcgaggtag tagcaggggt agcctgctt cggcccggcc 300  
 catttcctac ttgaaaggct cctcgggggg tccgctgttg tgcccccgcg gacacgccgt 360  
 gggcctattc agggccgcgg tgtgcacccg tggagtggct aaagcgggtg actttatccc 420  
 tgtggagaac ctagggacaa cc 442

<210> 56  
 <211> 111  
 <212> DNA  
 <213> Hepatitis C virus

<400> 56  
 tgtaaccag ctcctgaggc gactgcatca gtggataagc tcggagtga ccaatccatg 60  
 ctccggttcc tggctaaggg acatctggga ctggatatgc gagtgctga g 111

<210> 57  
 <211> 87  
 <212> DNA  
 <213> Hepatitis C virus

<400> 57  
 cgtgtgtggc ccggtatatt gttcactcc cagccccgtg gtggtgggaa cgaccgacag 60  
 gtcgggcgcg cctacctaca gctgggg 87

<210> 58  
 <211> 137  
 <212> DNA  
 <213> Hepatitis C virus

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& 2  
<400> 58

cccgcccttg cgagcttgga gacaccgggc ccggagcgtc cgcgctaggc ttctgtccag 60  
aggaggcagg/gctgccatat gtggcaagta cctcttcaac/tgggcagtaa gaacaaagct 120  
caaactcact ccaatag 137

<210> 59

<211> 259

<212> DNA

<213> Hepatitis C virus

<400> 59

tactgccttt gtgggtgctg gcctagctgg cgcgcgcac ggcagcgttg gactggggaa 60  
ggtcctcgtg gacattcttg cagggtatgg cgcgggcgtg gcgggagctc ttgtagcatt 120  
caagatcatg agcggtgagg tccccccac ggaggacctg gtcaatctgc tgcccgccat 180  
cctctcgctt ggagcccttg tagtcggtgt ggtctgcgca gcaatactgc gccggcacgt 240  
tggcccgggc gagggggca 259

<210> 60

<211> 130

<212> DNA

<213> Hepatitis C virus

<400> 60

tggcattgtg cccgcaaaga gcgtgtgtgg cccggtatat tgettcactc ccagccccgt 60  
ggtggtggga acgaccgaca ggtcgggcgc gcctacctac agctgggggtg caaatgatac 120  
ggatgtcttc 130

<210> 61

<211> 191

<212> DNA

<213> Hepatitis C virus

<400> 61

ggtcctcgtg gacattcttg cagggtatgg cgcgggcgtg gcgggagctc ttgtagcatt 60  
caagatcatg agcggtgagg tccccccac ggaggacctg gtcaatctgc tgcccgccat 120  
cctctcgctt ggagcccttg tagtcggtgt ggtctgcgca gcaatactgc gccggcacgt 180  
tggcccgggc g 191

<210> 62

<211> 89

<212> DNA

<213> Hepatitis C virus

<400> 62

cgaacgcccc tactgctggc actaccctcc aagaccttgt ggcattgtgc ccgcaaagag 60  
cgtgtgtggc ccggtatatt gcttcactc 89

<210> 63

<211> 230

<212> DNA

<213> Hepatitis C virus

<400> 63

caggcgccac tggacgacgc aagactgcaa ttgttctatc tatccccggc atataacggg 60  
tcatacgcatg gcatgggata tgatgatgaa ctggtcccct acggcagcgt tgggtgtagc 120

002080 26572660  
09921397 080201

tcagctgctc cggatccac aagccatcat ggacatgatc gctggtgctc actggggagt 180  
cctggcgggc atagcgtatt tctccatggt ggggaactgg gcgaaggtcc 230

<210> 64  
<211> 113  
<212> DNA  
<213> Hepatitis C virus

<400> 64  
tgccatactc agcagcctca ctgtaaccca gctcctgagg cgactgcac agtggataag 60  
ctcggagtgt accactccat gtcctgggtc ctggctaagg gacatctggg act 113

<210> 65  
<211> 142  
<212> DNA  
<213> Hepatitis C virus

<400> 65  
tgtctccagg actcaacgcc ggggcaggac tggcaggggg aagccaggca tctatagatt 60  
tgtggcaccg ggggagcgcc cctccggcat gtctgactcg tccgtcctct gtgagtgcta 120  
tgacgcgggc tgtgcttggt at 142

<210> 66  
<211> 162  
<212> DNA  
<213> Hepatitis C virus

<400> 66  
ccttctcgcg ccgaactata agttcgcgct gtggaggggtg tctgcagagg aatacgtgga 60  
gataaggcgg gtgggggact tccactacgt atcgggtatg actactgaca atcttaaagt 120  
cccgtgccag atcccatcgc ccgaattttt cacagaattg ga 162

<210> 67  
<211> 337  
<212> DNA  
<213> Hepatitis C virus

<400> 67  
cggagagatc cctttttacg gcaaggctat ccccctcgag gtgatcaagg ggggaagaca 60  
tctcatcttc tgccactcaa agaagaagtg cgacgagctc gccgcgaagc tggtcgcatt 120  
gggcatcaat gccgtggcct actaccgcgg tcttgacgtg tctgtcatcc cgaccagcgg 180  
cgatgttgtc gtcgtgtcga ccgatgctct catgactggc tttaccggcg acttcgactc 240  
tgtgatagac tgcaacacgt gtgtcactca gacagtcgat ttcagccttg accctacctt 300  
taccattgag acaaccacgc tccccagga tgctgtc 337

<210> 68  
<211> 163  
<212> DNA  
<213> Hepatitis C virus

<400> 68  
ggctctgcga gcaatactgc gccggcacgt tggcccgggc gagggggcag tgcaatggat 60  
gaaccggcta atagccttcg cctcccgggg gaaccatgtt tccccacgc actacgtgcc 120  
ggagagcgat gcagccgccc gcgtcactgc catactcagc agc 163

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<210> 69  
 <211> 309  
 <212> DNA  
 <213> Hepatitis C virus

<400> 69  
 ggccatcaag tccctcactg agaggcttta tgttgggggc cctcttacca attcaagggg 60  
 ggaaaactgc ggctaccgca ggtgccgcgc gagcggcgta ctgacaacta gctgtggtta 120  
 caccctcact tgctacatca aggcccgggc agcctgtcga gccgcagggc tccaggactg 180  
 caccatgctc gtgtgtggcg acgacttagt cgttatctgt gaaagtgcgg ggggccagga 240  
 ggacgcggcg agcctgagag ccttcacgga ggctatgacc aggtactccg ccccccccg 300  
 ggaccccc 309

<210> 70  
 <211> 240  
 <212> DNA  
 <213> Hepatitis C virus

<400> 70  
 actgcaagtt ctggacagcc attaccagga cgtgctcaag gaggtcaaag cagcggcgctc 60  
 aaaagtgaag gctaacttgc tatccgtaga ggaagcttgc agcctgacgc cccacattc 120  
 agccaaatcc aagtttggct atggggcaaa agacgtccgt tgccatgcca gaaaggccgt 180  
 agccacatc aactccgtgt ggaaagacct tctggaagac agtgtaacac caatagacac 240

<210> 71  
 <211> 184  
 <212> DNA  
 <213> Hepatitis C virus

<400> 71  
 cactcagaca gtcgatttca gccttgaccc tacctttacc attgagacaa ccacgctccc 60  
 ccaggatgct gtctccagga ctcaacgccg gggcaggact ggcaggggga agccaggcat 120  
 ctatagattt gtggcaccgg gggagcgccc ctccggcatg ttcgactcgt ccgtcctctg 180  
 tgag 184

<210> 72  
 <211> 234  
 <212> DNA  
 <213> Hepatitis C virus

<400> 72  
 agttctggac agccattacc aggacgtgct caaggaggtc aaagcagcgg cgtcaaaaagt 60  
 gaaggctaac ttgctatccg tagaggaagc ttgcagcctg acgccccac attcagccaa 120  
 atccaagttt ggctatgggg caaaagacgt ccgttgccat gccagaaagg ccgtagccca 180  
 catcaactcc gtgtggaaag accttctgga agacagtgtg acaccaatag acac 234

<210> 73  
 <211> 80  
 <212> DNA  
 <213> Hepatitis C virus

<400> 73  
 ctaccctcca agaccttggtg gcattgtgcc cgcaaagagc gtgtgtggcc cggtatattg 60  
 cttcactccc agccccgtgg 80

<210> 74

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<211> 112  
 <212> DNA  
 <213> Hepatitis C virus

<400> 74  
 tcctatcagt tatgccaaacg gaagcggcct cgacgaacgc ccctactgct ggcactaccc 60  
 tccaagacct tgtggcattg tgcccgc aaa gagcgtgtgt ggcccggat at 112

<210> 75  
 <211> 107  
 <212> DNA  
 <213> Hepatitis C virus

<400> 75  
 cactgtaacc cagctcctga ggcgactgca tcagtggata agctcggagt gtaccactcc 60  
 atgctccggt tcttggttaa gggacatctg ggactggata tgcgagg 107

<210> 76  
 <211> 78  
 <212> DNA  
 <213> Hepatitis C virus

<400> 76  
 gctcctgagg cgactgcac agtgataag ctccgagtgt accactccat gtcggttc 60  
 ctggctaagg gacatctg 78

<210> 77  
 <211> 103  
 <212> PRT  
 <213> Hepatitis C virus

<400> 77  
 Ala Cys Glu Cys Pro Gly Arg Ser Arg Arg Pro Cys Thr Met Ser Thr  
 1 5 10 15  
 Asn Pro Lys Pro Gln Arg Lys Thr Lys Arg Asn Thr Asn Arg Arg Pro  
 20 25 30  
 Gln Asp Val Lys Phe Pro Gly Gly Gly Gln Ile Val Gly Gly Val Tyr  
 35 40 45  
 Leu Leu Pro Arg Arg Gly Pro Arg Leu Gly Val Arg Ala Thr Arg Lys  
 50 55 60  
 Thr Ser Glu Arg Ser Gln Pro Arg Gly Arg Arg Gln Pro Ile Pro Lys  
 65 70 75 80  
 Ala Arg Arg Pro Glu Gly Arg Thr Trp Ala Gln Pro Gly Tyr Pro Trp  
 85 90 95  
 Pro Leu Tyr Gly Asn Glu Gly  
 100

<210> 78  
 <211> 113  
 <212> PRT

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<213> Hepatitis C virus

<400> 78

Met Ser Thr Asn Pro Lys Pro Gln Arg Lys Thr Lys Arg Asn Thr Asn  
1 5 10 15

Arg Arg Pro Gln Asp Val Lys Phe Pro Gly Gly Gly Gln Ile Val Gly  
20 25 30

Gly Val Tyr Leu Leu Pro Arg Arg Gly Pro Arg Leu Gly Val Arg Ala  
35 40 45

Thr Arg Lys Thr Ser Glu Arg Ser Gln Pro Arg Gly Arg Arg Gln Pro  
50 55 60

Ile Pro Lys Ala Arg Arg Pro Glu Gly Arg Thr Trp Ala Gln Pro Gly  
65 70 75 80

Tyr Pro Trp Pro Leu Tyr Gly Asn Glu Gly Cys Gly Trp Ala Gly Trp  
85 90 95

Leu Leu Ser Pro Arg Gly Ser Arg Pro Ser Trp Gly Pro Thr Asp Pro  
100 105 110

Arg

<210> 79

<211> 114

<212> PRT

<213> Hepatitis C virus

<400> 79

Ala Ile Leu His Thr Pro Gly Cys Val Pro Cys Val Arg Glu Gly Asn  
1 5 10 15

Ala Ser Arg Cys Trp Val Ala Val Thr Pro Thr Val Ala Thr Arg Asp  
20 25 30

Gly Lys Leu Pro Thr Thr Gln Leu Arg Arg His Ile Asp Leu Leu Val  
35 40 45

Gly Ser Ala Thr Leu Cys Ser Ala Leu Tyr Val Gly Asp Leu Cys Gly  
50 55 60

Ser Val Phe Leu Val Gly Gln Leu Phe Thr Phe Ser Pro Arg Arg His  
65 70 75 80

Trp Thr Thr Gln Asp Cys Asn Cys Ser Ile Tyr Pro Gly His Ile Thr  
85 90 95

Gly His Arg Met Ala Trp Asp Met Met Met Asn Trp Ser Pro Thr Ala  
100 105 110

Ala Leu

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<400> 80
Gly Val Asp Ala Glu Thr His Val Thr Gly Gly Asn Ala Gly Arg Thr
  1          5          10          15
Thr Ala Gly Leu Val Gly Leu Leu Thr Pro Gly Ala Lys Gln Asn Ile
      20          25          30
Gln Leu Ile Asn Thr Asn Gly Ser Trp His Ile Asn Ser Thr Ala Leu
      35          40          45
Asn Cys Asn Glu Ser Leu Asn Thr Gly Trp Leu Ala Gly Leu Phe Tyr
      50          55          60
Gln His Lys Phe Asn Ser Ser Gly Cys Pro Glu Arg Leu Ala Ser Cys
      65          70          75          80
Arg Arg Leu Thr Asp Phe Ala Gln Gly Trp Gly
      85          90

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<400> 81
Trp Gly Pro Ile Ser Tyr Ala Asn Gly Ser Gly Leu Asp Glu Arg Pro
 1          5          10          15
Tyr Cys Trp His Tyr Pro Pro Arg Pro Cys Gly Ile Val Pro Ala Lys
          20          25          30
Ser Val Cys Gly Pro Val Tyr Cys Phe Thr Pro Ser Pro Val Val Val
          35          40          45
Gly Thr Thr Asp Arg Ser Gly Ala Pro Thr Tyr Ser Trp Gly Ala Asn
 50          55          60
Asp Thr Asp Val Phe Val Leu Asn Asn Thr Arg Pro Pro Leu Gly Asn
65          70          75          80
Trp Phe Gly Cys Thr Trp Met Asn Ser Thr Gly Phe Thr Lys Val Cys
          85          90          95
Gly Ala Pro Pro Cys Val Ile Gly Gly Val Gly Asn Asn Thr Leu Leu
          100          105          110
Cys Pro Thr Asp Cys Phe Arg Lys His Pro Glu Ala Thr Tyr Ser Arg
          115          120          125
Cys Gly Ser Gly Pro Trp Ile Thr Pro Arg Cys Met Val Asp Tyr Pro
          130          135          140
Tyr Arg Leu Trp His Tyr Pro Cys Thr Ile Asn Tyr Thr Ile Phe Lys
145          150          155          160

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Val Arg Met Tyr Val Gly Gly Val Glu His Arg Leu Glu Ala Ala Cys  
 165 170 175

<210> 82

<211> 96

<212> PRT

<213> Hepatitis C virus

<400> 82

Trp His Tyr Pro Pro Arg Pro Cys Gly Ile Val Pro Ala Lys Ser Val  
 1 5 10 15

Cys Gly Pro Val Tyr Cys Phe Thr Pro Ser Pro Val Val Val Gly Thr  
 20 25 30

Thr Asp Arg Ser Gly Ala Pro Thr Tyr Ser Trp Gly Ala Asn Asp Thr  
 35 40 45

Asp Val Phe Val Leu Asn Asn Thr Arg Pro Pro Leu Gly Asn Trp Phe  
 50 55 60

Gly Cys Thr Trp Met Asn Ser Thr Gly Phe Thr Lys Val Cys Gly Ala  
 65 70 75 80

Pro Pro Cys Val Ile Gly Gly Val Gly Asn Asn Thr Leu Leu Cys Pro  
 85 90 95

<210> 83

<211> 278

<212> PRT

<213> Hepatitis C virus

<400> 83

Ala Ala Cys Gly Asp Ile Ile Asn Gly Leu Pro Val Ser Ala Arg Arg  
 1 5 10 15

Gly Gln Glu Ile Leu Leu Gly Pro Ala Asp Gly Met Val Ser Lys Gly  
 20 25 30

Trp Arg Leu Leu Ala Pro Ile Thr Ala Tyr Ala Gln Gln Thr Arg Gly  
 35 40 45

Leu Leu Gly Cys Ile Ile Thr Ser Leu Thr Gly Arg Asp Lys Asn Gln  
 50 55 60

Val Glu Gly Glu Val Gln Ile Val Ser Thr Ala Thr Gln Thr Phe Leu  
 65 70 75 80

Ala Thr Cys Ile Asn Gly Val Cys Trp Thr Val Tyr His Gly Ala Gly  
 85 90 95

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Thr Arg Thr Ile Ala Ser Pro Lys Gly Pro Val Ile Gln Met Tyr Thr  
 100 105 110  
 Asn Val Asp Gln Asp Leu Val Gly Trp Pro Ala Pro Gln Gly Ser Arg  
 115 120 125  
 Ser Leu Thr Pro Cys Thr Cys Gly Ser Ser Asp Leu Tyr Leu Val Thr  
 130 135 140  
 Arg His Ala Asp Val Ile Pro Val Arg Arg Arg Gly Asp Ser Arg Gly  
 145 150 155 160  
 Ser Leu Leu Ser Pro Arg Pro Ile Ser Tyr Leu Lys Gly Ser Ser Gly  
 165 170 175  
 Gly Pro Leu Leu Cys Pro Ala Gly His Ala Val Gly Leu Phe Arg Ala  
 180 185 190  
 Ala Val Cys Thr Arg Gly Val Ala Lys Ala Val Asp Phe Ile Pro Val  
 195 200 205  
 Glu Asn Leu Gly Thr Thr Met Arg Ser Pro Val Phe Thr Asp Asn Ser  
 210 215 220  
 Ser Pro Pro Ala Val Pro Gln Ser Phe Gln Val Ala His Leu His Ala  
 225 230 235 240  
 Pro Thr Gly Ser Gly Lys Ser Thr Lys Val Pro Ala Ala Tyr Ala Ala  
 245 250 255  
 Gln Gly Tyr Lys Val Leu Val Leu Asn Pro Ser Val Ala Ala Thr Leu  
 260 265 270  
 Gly Phe Gly Ala Tyr Met  
 275

<210> 84  
 <211> 158  
 <212> PRT  
 <213> Hepatitis C virus

<400> 84  
 Arg Arg Arg Gly Asp Ser Arg Gly Ser Leu Leu Ser Pro Arg Pro Ile  
 1 5 10 15  
 Ser Tyr Leu Lys Gly Ser Ser Gly Gly Pro Leu Leu Cys Pro Ala Gly  
 20 25 30  
 His Ala Val Gly Leu Phe Arg Ala Ala Val Cys Thr Arg Gly Val Ala  
 35 40 45  
 Lys Ala Val Asp Phe Ile Pro Val Glu Asn Leu Gly Thr Thr Met Arg  
 50 55 60  
 Ser Pro Val Phe Thr Asp Asn Ser Ser Pro Pro Ala Val Pro Gln Ser  
 65 70 75 80  
 Phe Gln Val Ala His Leu His Ala Pro Thr Gly Ser Gly Lys Ser Thr

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85

90

95

Lys Val Pro Ala Ala Tyr Ala Ala Gln Gly Tyr Lys Val Leu Val Leu  
100 105 110

Asn Pro Ser Val Ala Ala Thr Leu Gly Phe Gly Ala Tyr Met Ser Lys  
115 120 125

Ala His Gly Val Asp Pro Asn Ile Arg Thr Gly Val Arg Thr Ile Thr  
130 135 140

Thr Gly Ser Pro Ile Thr Tyr Ser Thr Tyr Gly Lys Phe Leu  
145 150 155

&lt;210&gt; 85

&lt;211&gt; 263

&lt;212&gt; PRT

&lt;213&gt; Hepatitis C virus

&lt;400&gt; 85

Asp Ser Arg Gly Ser Leu Leu Ser Pro Arg Pro Ile Ser Tyr Leu Lys  
1 5 10 15

Gly Ser Ser Gly Gly Pro Leu Leu Cys Pro Ala Gly His Ala Val Gly  
20 25 30

Leu Phe Arg Ala Ala Val Cys Thr Arg Gly Val Ala Lys Ala Val Asp  
35 40 45

Phe Ile Pro Val Glu Asn Leu Gly Thr Thr Met Arg Ser Pro Val Phe  
50 55 60

Thr Asp Asn Ser Ser Pro Pro Ala Val Pro Gln Ser Phe Gln Val Ala  
65 70 75 80

His Leu His Ala Pro Thr Gly Ser Gly Lys Ser Thr Lys Val Pro Ala  
85 90 95

Ala Tyr Ala Ala Gln Gly Tyr Lys Val Leu Val Leu Asn Pro Ser Val  
100 105 110

Ala Ala Thr Leu Gly Phe Gly Ala Tyr Met Ser Lys Ala His Gly Val  
115 120 125

Asp Pro Asn Ile Arg Thr Gly Val Arg Thr Ile Thr Thr Gly Ser Pro  
130 135 140

Ile Thr Tyr Ser Thr Tyr Gly Lys Phe Leu Ala Asp Gly Gly Cys Ser  
145 150 155 160

Gly Gly Ala Tyr Asp Ile Ile Ile Cys Asp Glu Cys His Ser Thr Asp  
165 170 175

Ala Thr Ser Ile Leu Gly Ile Gly Thr Val Leu Asp Gln Ala Glu Thr  
180 185 190

Ala Gly Ala Arg Leu Val Val Leu Ala Thr Ala Thr Pro Pro Gly Ser  
195 200 205

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Leu Ala Ala Lys Leu Val Ala  
260

<210> 86

<211> 194

<212> PRT

<213> Hepatitis C virus

<400> 86

Asp Asn Ser Ser Pro Pro Ala Val Pro Gln Ser Phe Gln Val Ala His  
1 5 10 15

Leu His Ala Pro Thr Gly Ser Gly Lys Ser Thr Lys Val Pro Ala Ala  
20 25 30

Tyr Ala Ala Gln Gly Tyr Lys Val Leu Val Leu Asn Pro Ser Val Ala  
35 40 45

Ala Thr Leu Gly Phe Gly Ala Tyr Met Ser Lys Ala His Gly Val Asp  
50 55 60

Pro Asn Ile Arg Thr Gly Val Arg Thr Ile Thr Thr Gly Ser Pro Ile  
65 70 75 80

Thr Tyr Ser Thr Tyr Gly Lys Phe Leu Ala Asp Gly Gly Cys Ser Gly  
85 90 95

Gly Ala Tyr Asp Ile Ile Ile Cys Asp Glu Cys His Ser Thr Asp Ala  
100 105 110

Thr Ser Ile Leu Gly Ile Gly Thr Val Leu Asp Gln Ala Glu Thr Ala  
115 120 125

Gly Ala Arg Leu Val Val Leu Ala Thr Ala Thr Pro Pro Gly Ser Val  
130 135 140

Thr Val Ser His Pro Asn Ile Glu Glu Val Ala Leu Ser Thr Thr Gly  
145 150 155 160

Glu Ile Pro Phe Tyr Gly Lys Ala Ile Pro Leu Glu Val Ile Lys Gly  
165 170 175

Gly Arg His Leu Ile Phe Cys His Ser Lys Lys Lys Cys Asp Glu Leu  
180 185 190

Ala Ala

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<210> 87  
 <211> 205  
 <212> PRT  
 <213> Hepatitis C virus

<400> 87

Leu Ala Asp Gly Gly Cys Ser Gly Gly Ala Tyr Asp Ile Ile Ile Cys  
 1 5 10 15  
 Asp Glu Cys His Ser Thr Asp Ala Thr Ser Ile Leu Gly Ile Gly Thr  
 20 25 30  
 Val Leu Asp Gln Ala Glu Thr Ala Gly Ala Arg Leu Val Val Leu Ala  
 35 40 45  
 Thr Ala Thr Pro Pro Gly Ser Val Thr Val Ser His Pro Asn Ile Glu  
 50 55 60  
 Glu Val Ala Leu Ser Thr Thr Gly Glu Ile Pro Phe Tyr Gly Lys Ala  
 65 70 75 80  
 Ile Pro Leu Glu Val Ile Lys Gly Gly Arg His Leu Ile Phe Cys His  
 85 90 95  
 Ser Lys Lys Lys Cys Asp Glu Leu Ala Ala Lys Leu Val Ala Leu Gly  
 100 105 110  
 Ile Asn Ala Val Ala Tyr Tyr Arg Gly Leu Asp Val Ser Val Ile Pro  
 115 120 125  
 Thr Ser Gly Asp Val Val Val Val Ser Thr Asp Ala Leu Met Thr Gly  
 130 135 140  
 Phe Thr Gly Asp Phe Asp Ser Val Ile Asp Cys Asn Thr Cys Val Thr  
 145 150 155 160  
 Gln Thr Val Asp Phe Ser Leu Asp Pro Thr Phe Thr Ile Glu Thr Thr  
 165 170 175  
 Thr Leu Pro Gln Asp Ala Val Ser Arg Thr Gln Arg Arg Gly Arg Thr  
 180 185 190  
 Gly Arg Gly Lys Pro Gly Ile Tyr Arg Phe Val Ala Pro  
 195 200 205

<210> 88  
 <211> 186  
 <212> PRT  
 <213> Hepatitis C virus

<400> 88

Ser Thr Asp Ala Thr Ser Ile Leu Gly Ile Gly Thr Val Leu Asp Gln  
 1 5 10 15  
 Ala Glu Thr Ala Gly Ala Arg Leu Val Val Leu Ala Thr Ala Thr Pro  
 20 25 30  
 Pro Gly Ser Val Thr Val Ser His Pro Asn Ile Glu Glu Val Ala Leu  
 35 40 45

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140

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<210> 90
<211> 129
<212> PRT
<213> Hepatitis C virus
```

<400> 90  
Arg Phe Val Ala Pro Gly Glu Arg Pro Ser Gly Met Phe Asp Ser Ser  
1 5 10 15

Val Leu Cys Glu Cys Tyr Asp Ala Gly Cys Ala Trp Tyr Glu Leu Thr  
20 25 30

Pro Ala Glu Thr Thr Val Arg Leu Arg Ala Tyr Met Asn Thr Pro Gly  
35 40 45

Leu Pro Val Cys Gln Asp His Leu Glu Phe Trp Glu Gly Val Phe Thr  
50 55 60

Gly Leu Thr His Ile Asp Ala His Phe Leu Ser Gln Thr Lys Gln Ser  
65 70 75 80

Gly Glu Asn Phe Pro Tyr Leu Val Ala Tyr Gln Ala Thr Val Cys Ala  
85 90 95

Arg Ala Gln Ala Pro Pro Pro Ser Trp Asp Gln Met Trp Lys Cys Leu  
100 105 110

Ile Arg Leu Lys Pro Thr Leu His Gly Pro Thr Pro Leu Leu Tyr Arg  
115 120 125

Leu

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<210> 91
<211> 51
<212> PRT
<213> Hepatitis C virus
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<400> 91  
Thr Ser Thr Trp Val Leu Val Gly Gly Val Leu Ala Ala Leu Ala Ala  
1 5 10 15

Tyr Cys Leu Ser Thr Gly Cys Val Val Ile Val Gly Arg Ile Val Leu  
20 25 30

Ser Gly Lys Pro Ala Ile Ile Pro Asp Arg Glu Val Leu Tyr Gln Glu  
35 40 45

Phe Asp Glu  
50

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<210> 92  
 <211> 18  
 <212> PRT  
 <213> Hepatitis C virus

<400> 92  
 Ala Ala Leu Ala Ala Tyr Cys Leu Ser Thr Gly Cys Val Val Ile Val  
     1                    5                    10                    15  
 Gly Arg

<210> 93  
 <211> 208  
 <212> PRT  
 <213> Hepatitis C virus

<400> 93  
 Phe Thr Ala Ala Val Thr Ser Pro Leu Thr Thr Gly Gln Thr Leu Leu  
     1                    5                    10                    15  
 Phe Asn Ile Leu Gly Gly Trp Val Ala Ala Gln Leu Ala Ala Pro Gly  
                     20                    25                    30  
 Ala Ala Thr Ala Phe Val Gly Ala Gly Leu Ala Gly Ala Ala Ile Gly  
                     35                    40                    45  
 Ser Val Gly Leu Gly Lys Val Leu Val Asp Ile Leu Ala Gly Tyr Gly  
     50                    55                    60  
 Ala Gly Val Ala Gly Ala Leu Val Ala Phe Lys Ile Met Ser Gly Glu  
     65                    70                    75                    80  
 Val Pro Ser Thr Glu Asp Leu Val Asn Leu Leu Pro Ala Ile Leu Ser  
                     85                    90                    95  
 Pro Gly Ala Leu Val Val Gly Val Val Cys Ala Ala Ile Leu Arg Arg  
                     100                    105                    110  
 His Val Gly Pro Gly Glu Gly Ala Val Gln Trp Met Asn Arg Leu Ile  
                     115                    120                    125  
 Ala Phe Ala Ser Arg Gly Asn His Val Ser Pro Thr His Tyr Val Pro  
     130                    135                    140  
 Glu Ser Asp Ala Ala Ala Arg Val Thr Ala Ile Leu Ser Ser Leu Thr  
     145                    150                    155                    160  
 Val Thr Gln Leu Leu Arg Arg Leu His Gln Trp Ile Ser Ser Glu Cys  
                     165                    170                    175  
 Thr Thr Pro Cys Ser Gly Ser Trp Leu Arg Asp Ile Trp Asp Trp Ile  
                     180                    185                    190  
 Cys Glu Val Leu Ser Asp Phe Lys Thr Trp Leu Lys Ala Lys Leu Met  
     195                    200                    205

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<210> 94  
 <211> 207  
 <212> PRT  
 <213> Hepatitis C virus

<400> 94

Thr Ala Phe Val Gly Ala Gly Leu Ala Gly Ala Ala Ile Gly Ser Val  
 1 5 10 15  
 Gly Leu Gly Lys Val Leu Val Asp Ile Leu Ala Gly Tyr Gly Ala Gly  
 20 25 30  
 Val Ala Gly Ala Leu Val Ala Phe Lys Ile Met Ser Gly Glu Val Pro  
 35 40 45  
 Ser Thr Glu Asp Leu Val Asn Leu Leu Pro Ala Ile Leu Ser Pro Gly  
 50 55 60  
 Ala Leu Val Val Gly Val Val Cys Ala Ala Ile Leu Arg Arg His Val  
 65 70 75 80  
 Gly Pro Gly Glu Gly Ala Val Gln Trp Met Asn Arg Leu Ile Ala Phe  
 85 90 95  
 Ala Ser Arg Gly Asn His Val Ser Pro Thr His Tyr Val Pro Glu Ser  
 100 105 110  
 Asp Ala Ala Ala Arg Val Thr Ala Ile Leu Ser Ser Leu Thr Val Thr  
 115 120 125  
 Gln Leu Leu Arg Arg Leu His Gln Trp Ile Ser Ser Glu Cys Thr Thr  
 130 135 140  
 Pro Cys Ser Gly Ser Trp Leu Arg Asp Ile Trp Asp Trp Ile Cys Glu  
 145 150 155 160  
 Val Leu Ser Asp Phe Lys Thr Trp Leu Lys Ala Lys Leu Met Pro Gln  
 165 170 175  
 Leu Pro Gly Ile Pro Phe Val Ser Cys Gln Arg Gly Tyr Arg Gly Val  
 180 185 190  
 Trp Arg Gly Asp Gly Ile Met His Thr Arg Cys His Cys Gly Ala  
 195 200 205

<210> 95  
 <211> 225  
 <212> PRT  
 <213> Hepatitis C virus

<400> 95

Leu Val Asp Ile Leu Ala Gly Tyr Gly Ala Gly Val Ala Gly Ala Leu  
 1 5 10 15  
 Val Ala Phe Lys Ile Met Ser Gly Glu Val Pro Ser Thr Glu Asp Leu

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20

25

30

Val Asn Leu Leu Pro Ala Ile Leu Ser Pro Gly Ala Leu Val Val Gly  
 35 40 45

Val Val Cys Ala Ala Ile Leu Arg Arg His Val Gly Pro Gly Glu Gly  
 50 55 60

Ala Val Gln Trp Met Asn Arg Leu Ile Ala Phe Ala Ser Arg Gly Asn  
 65 70 75 80

His Val Ser Pro Thr His Tyr Val Pro Glu Ser Asp Ala Ala Ala Arg  
 85 90 95

Val Thr Ala Ile Leu Ser Ser Leu Thr Val Thr Gln Leu Leu Arg Arg  
 100 105 110

Leu His Gln Trp Ile Ser Ser Glu Cys Thr Thr Pro Cys Ser Gly Ser  
 115 120 125

Trp Leu Arg Asp Ile Trp Asp Trp Ile Cys Glu Val Leu Ser Asp Phe  
 130 135 140

Lys Thr Trp Leu Lys Ala Lys Leu Met Pro Gln Leu Pro Gly Ile Pro  
 145 150 155 160

Phe Val Ser Cys Gln Arg Gly Tyr Arg Gly Val Trp Arg Gly Asp Gly  
 165 170 175

Ile Met His Thr Arg Cys His Cys Gly Ala Glu Ile Thr Gly His Val  
 180 185 190

Lys Asn Gly Thr Met Arg Ile Val Gly Pro Arg Thr Cys Arg Asn Met  
 195 200 205

Trp Ser Gly Thr Phe Pro Ile Asn Ala Tyr Thr Thr Gly Pro Cys Thr  
 210 215 220

Pro  
 225

<210> 96

<211> 145

<212> PRT

<213> Hepatitis C virus

<400> 96

Ala Gly Tyr Gly Ala Gly Val Ala Gly Ala Leu Val Ala Phe Lys Ile  
 1 5 10 15

Met Ser Gly Glu Val Pro Ser Thr Glu Asp Leu Val Asn Leu Leu Pro  
 20 25 30

Ala Ile Leu Ser Pro Gly Ala Leu Val Val Gly Val Val Cys Ala Ala  
 35 40 45

Ile Leu Arg Arg His Val Gly Pro Gly Glu Gly Ala Val Gln Trp Met  
 50 55 60

Ala  
145

Val Leu Ser Asp Phe Lys Thr Trp Leu Lys Ala Lys Leu Met Pro Gln  
65 70 75 80

Leu Pro Gly Ile Pro Phe Val Ser Cys Gln Arg Gly Tyr Arg Gly Val  
                     85                    90                    95  
 Trp Arg Gly Asp Gly Ile Met His Thr Arg Cys His Cys Gly Ala Glu  
                     100                    105                    110  
 Ile Thr Gly His Val Lys Asn Gly Thr Met Arg Ile Val Gly Pro Arg  
                     115                    120                    125  
 Thr Cys Arg Asn Met Trp Ser Gly Thr Phe Pro Ile Asn Ala Tyr Thr  
                     130                    135                    140  
 Thr Gly Pro Cys Thr Pro Leu Pro Ala Pro Asn Tyr Lys Phe Ala Leu  
                     145                    150                    155                    160  
 Trp Arg Val Ser Ala  
                     165

<210> 99

<211> 308

<212> PRT

<213> Hepatitis C virus

<400> 99

Tyr Val Pro Glu Ser Asp Ala Ala Ala Arg Val Thr Ala Ile Leu Ser  
   1                    5                    10                    15  
 Ser Leu Thr Val Thr Gln Leu Leu Arg Arg Leu His Gln Trp Ile Ser  
                     20                    25                    30  
 Ser Glu Cys Thr Thr Pro Cys Ser Gly Ser Trp Leu Arg Asp Ile Trp  
                     35                    40                    45  
 Asp Trp Ile Cys Glu Val Leu Ser Asp Phe Lys Thr Trp Leu Lys Ala  
                     50                    55                    60  
 Lys Leu Met Pro Gln Leu Pro Gly Ile Pro Phe Val Ser Cys Gln Arg  
                     65                    70                    75                    80  
 Gly Tyr Arg Gly Val Trp Arg Gly Asp Gly Ile Met His Thr Arg Cys  
                     85                    90                    95  
 His Cys Gly Ala Glu Ile Thr Gly His Val Lys Asn Gly Thr Met Arg  
                     100                    105                    110  
 Ile Val Gly Pro Arg Thr Cys Arg Asn Met Trp Ser Gly Thr Phe Pro  
                     115                    120                    125  
 Ile Asn Ala Tyr Thr Thr Gly Pro Cys Thr Pro Leu Pro Ala Pro Asn  
                     130                    135                    140  
 Tyr Lys Phe Ala Leu Trp Arg Val Ser Ala Glu Glu Tyr Val Glu Ile  
                     145                    150                    155                    160  
 Arg Arg Val Gly Asp Phe His Tyr Val Ser Gly Met Thr Thr Asp Asn  
                     165                    170                    175  
 Leu Lys Cys Pro Cys Gln Ile Pro Ser Pro Glu Phe Phe Thr Glu Leu  
                     180                    185                    190

Asp Gly Val Arg Leu His Arg Phe Ala Pro Pro Cys Lys Pro Leu Leu  
 195 200 205  
 Arg Glu Glu Val Ser Phe Arg Val Gly Leu His Glu Tyr Pro Val Gly  
 210 215 220  
 Ser Gln Leu Pro Cys Glu Pro Glu Pro Asp Val Ala Val Leu Thr Ser  
 225 230 235 240  
 Met Leu Thr Asp Pro Ser His Ile Thr Ala Glu Ala Ala Gly Arg Arg  
 245 250 255  
 Leu Ala Arg Gly Ser Pro Pro Ser Met Ala Ser Ser Ser Ala Ser Gln  
 260 265 270  
 Leu Ser Ala Pro Ser Leu Lys Ala Thr Cys Thr Ala Asn His Asp Ser  
 275 280 285  
 Pro Asp Ala Glu Leu Ile Glu Ala Asn Leu Leu Trp Arg Gln Glu Met  
 290 295 300

Gly Gly Asn Ile

305

<210> 100

<211> 283

<212> PRT

<213> Hepatitis C virus

" <400> 100

Leu Ser Ser Leu Thr Val Thr Gln Leu Leu Arg Arg Leu His Gln Trp  
 1 5 10 15

Ile Ser Ser Glu Cys Thr Thr Pro Cys Ser Gly Ser Trp Leu Arg Asp  
 20 25 30

Ile Trp Asp Trp Ile Cys Glu Val Leu Ser Asp Phe Lys Thr Trp Leu  
 35 40 45

Lys Ala Lys Leu Met Pro Gln Leu Pro Gly Ile Pro Phe Val Ser Cys  
 50 55 60

Gln Arg Gly Tyr Arg Gly Val Trp Arg Gly Asp Gly Ile Met His Thr  
 65 70 75 80

Arg Cys His Cys Gly Ala Glu Ile Thr Gly His Val Lys Asn Gly Thr  
 85 90 95

Met Arg Ile Val Gly Pro Arg Thr Cys Arg Asn Met Trp Ser Gly Thr  
 100 105 110

Phe Pro Ile Asn Ala Tyr Thr Thr Gly Pro Cys Thr Pro Leu Pro Ala  
 115 120 125

Pro Asn Tyr Lys Phe Ala Leu Trp Arg Val Ser Ala Glu Glu Tyr Val  
 130 135 140

Glu Ile Arg Arg Val Gly Asp Phe His Tyr Val Ser Gly Met Thr Thr

Asp Ser Pro Asp Ala Glu Leu Ile Glu Ala Asn  
275 280

$\langle 400 \rangle$  101

1	Ser	Leu	Thr	Val	Thr	Gln	Leu	Leu	Arg	Arg	Leu	His	Gln	Trp	Ile	Ser
					5					10					15	
2	Ser	Glu	Cys	Thr	Thr	Pro	Cys	Ser	Gly	Ser	Trp	Leu	Arg	Asp	Ile	Trp
				20					25					30		
3	Asp	Trp	Ile	Cys	Glu	Val	Leu	Ser	Asp	Phe	Lys	Thr	Trp	Leu	Lys	Ala
			35					40					45			
4	Lys	Leu	Met	Pro	Gln	Leu	Pro	Gly	Ile	Pro	Phe	Val	Ser	Cys	Gln	Arg
		50					55					60				
5	Gly	Tyr	Arg	Gly	Val	Trp	Arg	Gly	Asp	Gly	Ile	Met	His	Thr	Arg	Cys
	65					70					75					80
6	His	Cys	Gly	Ala	Glu	Ile	Thr	Gly	His	Val	Lys	Asn	Gly	Thr	Met	Arg
					85					90					95	
7	Ile	Val	Gly	Pro	Arg	Thr	Cys	Arg	Asn	Met	Trp	Ser	Gly	Thr	Phe	Pro
				100					105					110		
8	Ile	Asn	Ala	Tyr	Thr	Thr	Gly	Pro	Cys	Thr	Pro	Leu	Pro	Ala	Pro	Asn
			115					120					125			
9	Tyr	Lys	Phe	Ala	Leu	Trp	Arg	Val	Ser	Ala	Glu	Glu	Tyr	Val	Glu	Ile
	130						135					140				

Arg Arg Val Gly Asp Phe His Tyr Val Ser Gly Met Thr Thr Asp Asn  
 145 150 155 160

Leu Lys Cys Pro Cys Gln Ile Pro Ser Pro Glu Phe Phe Thr Glu Leu  
 165 170 175

Asp Gly Val Arg Leu His Arg Phe Ala Pro Pro Cys Lys Pro Leu Leu  
 180 185 190

Arg Glu Glu Val Ser Phe Arg Val Gly Leu His Glu Tyr Pro Val Gly  
 195 200 205

Ser Gln Leu Pro Cys Glu Pro Glu Pro Asp Val Ala Val Leu Thr Ser  
 210 215 220

Met Leu Thr Asp Pro Ser His Ile Thr Ala Glu Ala Ala Gly Arg Arg  
 225 230 235 240

Leu Ala Arg Gly Ser Pro Pro Ser Met  
 245

<210> 102  
 <211> 85  
 <212> PRT  
 <213> Hepatitis C virus

<400> 102  
 Thr Trp Leu Lys Ala Lys Leu Met Pro Gln Leu Pro Gly Ile Pro Phe  
 1 5 10 15

Val Ser Cys Gln Arg Gly Tyr Arg Gly Val Trp Arg Gly Asp Gly Ile  
 20 25 30

Met His Thr Arg Cys His Cys Gly Ala Glu Ile Thr Gly His Val Lys  
 35 40 45

Asn Gly Thr Met Arg Ile Val Gly Pro Arg Thr Cys Arg Asn Met Trp  
 50 55 60

Ser Gly Thr Phe Pro Ile Asn Ala Tyr Thr Thr Gly Pro Cys Thr Pro  
 65 70 75 80

Leu Pro Ala Pro Asn  
 85

<210> 103  
 <211> 94  
 <212> PRT  
 <213> Hepatitis C virus

<400> 103  
 Glu Ile Thr Gly His Val Lys Asn Gly Thr Met Arg Ile Val Gly Pro  
 1 5 10 15

Arg Thr Cys Arg Asn Met Trp Ser Gly Thr Phe Pro Ile Asn Ala Tyr  
 20 25 30

Thr Thr Gly Pro Cys Thr Pro Leu Pro Ala Pro Asn Tyr Lys Phe Ala  
35 40 45

Leu Trp Arg Val Ser Ala Glu Glu Tyr Val Glu Ile Arg Arg Val Gly  
50 55 60

Asp Phe His Tyr Val Ser Gly Met Thr Thr Asp Asn Leu Lys Cys Pro  
65 70 75 80

Cys Gln Ile Pro Ser Pro Glu Phe Phe Thr Glu Leu Asp Gly  
85 90

<210> 104

<211> 75

<212> PRT

<213> Hepatitis C virus

<400> 104

Ile Glu Ala Asn Leu Leu Trp Arg Gln Glu Met Gly Gly Asn Ile Thr  
1 5 10 15

Arg Val Glu Ser Glu Asn Lys Val Val Ile Leu Asp Ser Phe Asp Pro  
20 25 30

Leu Val Ala Glu Glu Asp Glu Arg Glu Val Ser Val Pro Ala Glu Ile  
35 40 45

Leu Arg Lys Ser Arg Arg Phe Ala Arg Ala Leu Pro Val Trp Ala Arg  
50 55 60

Pro Asp Tyr Asn Pro Pro Leu Val Glu Thr Trp  
65 70 75

<210> 105

<211> 90

<212> PRT

<213> Hepatitis C virus

<400> 105

His Gly Cys Pro Leu Pro Pro Pro Arg Ser Pro Pro Val Pro Pro Pro  
1 5 10 15

Arg Lys Lys Arg Thr Val Val Leu Thr Glu Ser Thr Leu Ser Thr Ala  
20 25 30

Leu Ala Glu Leu Ala Thr Lys Ser Phe Gly Ser Ser Ser Thr Ser Gly  
35 40 45

Ile Thr Gly Asp Asn Thr Thr Thr Ser Ser Glu Pro Ala Pro Ser Gly  
50 55 60

Cys Pro Pro Asp Ser Asp Val Glu Ser Tyr Ser Ser Met Pro Pro Leu  
65 70 75 80

Glu Gly Glu Pro Gly Asp Pro Asp Leu Ser  
85 90

1020300 26560

<210> 106  
 <211> 137  
 <212> PRT  
 <213> Hepatitis C virus

<400> 106  
 Ser Trp Thr Gly Ala Leu Val Thr Pro Cys Ala Ala Glu Glu Gln Lys  
 1 5 10 15  
 Leu Pro Ile Asn Ala Leu Ser Asn Ser Leu Leu Arg His His Asn Leu  
 20 25 30  
 Val Tyr Ser Thr Thr Ser Arg Ser Ala Cys Gln Arg Gln Lys Lys Val  
 35 40 45  
 Thr Phe Asp Arg Leu Gln Val Leu Asp Ser His Tyr Gln Asp Val Leu  
 50 55 60  
 Lys Glu Val Lys Ala Ala Ala Ser Lys Val Lys Ala Asn Leu Leu Ser  
 65 70 75 80  
 Val Glu Glu Ala Cys Ser Leu Thr Pro Pro His Ser Ala Lys Ser Lys  
 85 90 95  
 Phe Gly Tyr Gly Ala Lys Asp Val Arg Cys His Ala Arg Lys Ala Val  
 100 105 110  
 Ala His Ile Asn Ser Val Trp Lys Asp Leu Leu Glu Asp Ser Val Thr  
 115 120 125  
 Pro Ile Asp Thr Thr Ile Met Ala Lys  
 130 135

<210> 107  
 <211> 300  
 <212> PRT  
 <213> Hepatitis C virus

<400> 107  
 Ala Asn Leu Leu Ser Val Glu Glu Ala Cys Ser Leu Thr Pro Pro His  
 1 5 10 15  
 Ser Ala Lys Ser Lys Phe Gly Tyr Gly Ala Lys Asp Val Arg Cys His  
 20 25 30  
 Ala Arg Lys Ala Val Ala His Ile Asn Ser Val Trp Lys Asp Leu Leu  
 35 40 45  
 Glu Asp Ser Val Thr Pro Ile Asp Thr Thr Ile Met Ala Lys Asn Glu  
 50 55 60  
 Val Phe Cys Val Gln Pro Glu Lys Gly Gly Arg Lys Pro Ala Arg Leu  
 65 70 75 80  
 Ile Val Phe Pro Asp Leu Gly Val Arg Val Cys Glu Lys Met Ala Leu  
 85 90 95

Tyr Asp Val Val Ser Lys Leu Pro Leu Ala Val Met Gly Ser Ser Tyr  
 100 105 110  
 Gly Phe Gln Tyr Ser Pro Gly Gln Arg Val Glu Phe Leu Val Gln Ala  
 115 120 125  
 Trp Lys Ser Lys Lys Thr Pro Met Gly Phe Ser Tyr Asp Thr Arg Cys  
 130 135 140  
 Phe Asp Ser Thr Val Thr Glu Ser Asp Ile Arg Thr Glu Glu Ala Ile  
 145 150 155 160  
 Tyr Gln Cys Cys Asp Leu Asp Pro Gln Ala Arg Val Ala Ile Lys Ser  
 165 170 175  
 Leu Thr Glu Arg Leu Tyr Val Gly Gly Pro Leu Thr Asn Ser Arg Gly  
 180 185 190  
 Glu Asn Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Leu Thr Thr  
 195 200 205  
 Ser Cys Gly Asn Thr Leu Thr Cys Tyr Ile Lys Ala Arg Ala Ala Cys  
 210 215 220  
 Arg Ala Ala Gly Leu Gln Asp Cys Thr Met Leu Val Cys Gly Asp Asp  
 225 230 235 240  
 Leu Val Val Ile Cys Glu Ser Ala Gly Val Gln Glu Asp Ala Ala Ser  
 245 250 255  
 Leu Arg Ala Phe Thr Glu Ala Met Thr Arg Tyr Ser Ala Pro Pro Gly  
 260 265 270  
 Asp Pro Pro Gln Pro Glu Tyr Asp Leu Glu Leu Ile Thr Ser Cys Ser  
 275 280 285  
 Ser Asn Val Ser Val Ala His Asp Gly Ala Gly Lys  
 290 295 300

<210> 108  
 <211> 199  
 <212> PRT  
 <213> Hepatitis C virus

<400> 108  
 Glu Glu Ala Cys Ser Leu Thr Pro Pro His Ser Ala Lys Ser Lys Phe  
 1 5 10 15  
 Gly Tyr Gly Ala Lys Asp Val Arg Cys His Ala Arg Lys Ala Val Ala  
 20 25 30  
 His Ile Asn Ser Val Trp Lys Asp Leu Leu Glu Asp Ser Val Thr Pro  
 35 40 45  
 Ile Asp Thr Thr Ile Met Ala Lys Asn Glu Val Phe Cys Val Gln Pro  
 50 55 60  
 Glu Lys Gly Gly Arg Lys Pro Ala Arg Leu Ile Val Phe Pro Asp Leu  
 65 70 75 80

Arg Gly Glu Asn Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Leu

SECRET

```
<210> 111
<211> 89
<212> PRT
<213> Hepatitis C virus
```

&lt;400&gt; 111

Val Ser Val Ala His Asp Gly Ala Gly Lys Arg Val Tyr Tyr Leu Thr  
 1 5 10 15

Arg Asp Pro Thr Thr Pro Leu Ala Arg Ala Ala Trp Glu Thr Ala Arg  
 20 25 30

His Thr Pro Val Asn Ser Trp Leu Gly Asn Ile Ile Met Phe Ala Pro  
 35 40 45

Thr Leu Trp Ala Arg Met Ile Leu Met Thr His Phe Phe Ser Val Leu  
 50 55 60

Ile Ala Arg Asp Gln Leu Glu Gln Ala Leu Asn Cys Glu Ile Tyr Gly  
 65 70 75 80

Ala Cys Tyr Ser Ile Glu Pro Leu Asp  
 85

&lt;210&gt; 112

&lt;211&gt; 73

&lt;212&gt; PRT

&lt;213&gt; Hepatitis C virus

&lt;400&gt; 112

Leu His Gly Leu Ser Ala Phe Ser Leu His Ser Tyr Ser Pro Gly Glu  
 1 5 10 15

Ile Asn Arg Val Ala Ala Cys Leu Arg Lys Leu Gly Val Pro Pro Leu  
 20 25 30

Arg Ala Trp Arg His Arg Ala Arg Ser Val Arg Ala Arg Leu Leu Ser  
 35 40 45

Arg Gly Gly Arg Ala Ala Ile Cys Gly Lys Tyr Leu Phe Asn Trp Ala  
 50 55 60

Val Arg Thr Lys Leu Lys Leu Thr Pro  
 65 70

&lt;210&gt; 113

&lt;211&gt; 63

&lt;212&gt; PRT

&lt;213&gt; Hepatitis C virus

&lt;400&gt; 113

Ser Pro Gly Glu Ile Asn Arg Val Ala Ala Cys Leu Arg Lys Leu Gly  
 1 5 10 15

Val Pro Pro Leu Arg Ala Trp Arg His Arg Ala Arg Ser Val Arg Ala  
 20 25 30

Arg Leu Leu Ser Arg Gly Gly Arg Ala Ala Ile Cys Gly Lys Tyr Leu  
 35 40 45

Phe Asn Trp Ala Val Arg Thr Lys Leu Lys Leu Thr Pro Ile Ala

50

55

60

<210> 114  
 <211> 310  
 <212> DNA  
 <213> Hepatitis C virus

<400> 114  
 tgottgcgag tgccccggga ggtctcgtag accgtgcacc atgagcacga atcctaaacc 60  
 tcaaagaaaa accaaacgta acaccaaccg tcgcccacag gacgtcaagt tcccgggtgg 120  
 cggtcagatc gttggtggag tttacttggt gccgcgcagg ggccctagat tgggtgtgcg 180  
 cgcgacgagg aagacttccg agcggtcgca acctcgaggt agacgtcagc ctatcccca 240  
 ggcacgtcgg ccgaggggca ggacctgggc tcagcccggt tacccttggc ccctctatgg 300  
 caatgagggg 310

<210> 115  
 <211> 339  
 <212> DNA  
 <213> Hepatitis C virus

<400> 115  
 atgagcacga atcctaaacc tcaaagaaaa accaaacgta acaccaaccg tcgcccacag 60  
 gacgtcaagt tcccgggtgg cggtcagatc gttggtggag tttacttggt gccgcgcagg 120  
 ggccctagat tgggtgtgcg cgcgacgagg aagacttccg agcggtcgca acctcgaggt 180  
 agacgtcagc ctatcccca ggacgtcgg ccgaggggca ggacctgggc tcagcccggt 240  
 tacccttggc ccctctatgg caatgagggg tgcgggtggg cgggatggct cctgtctccc 300  
 cgtggctctc ggccctagctg gggcccccaca gacccccgg 339

<210> 116  
 <211> 345  
 <212> DNA  
 <213> Hepatitis C virus

<400> 116  
 tgccatcctg cacaactccgg ggtgtgtccc ttgcgttcgc gagggtaacg cctcgaggtg 60  
 ttgggtggcg gtgaccccca cggtgccac cagggacggc aaactcccca caacgcagct 120  
 tcgacgtcat atcgatctgc ttgtcgggag cgccaccctc tgctcggccc tctacgtggg 180  
 ggacctgtgc ggggtctgtct ttcttgttgg tcaactgttt accttctctc ccaggcgcca 240  
 ctggacgacg caagactgca attgttctat ctatcccggc catataacgg gtcacgcgat 300  
 ggcattgggat atgatgatga actgggtcccc tacggcagcg ttggt 345

<210> 117  
 <211> 276  
 <212> DNA  
 <213> Hepatitis C virus

<400> 117  
 cggcgtcgac gcggaaaccc acgtcaccgg gggaaatgcc ggccgcacca cggctgggct 60  
 tgttggtctc cttacaccag ggcgaagca gaacatccaa ctgatcaaca ccaacggcag 120  
 ttggcacatc aatagcacgg ccttgaattg caatgaaagc cttaacaccg gctgggttagc 180  
 agggctcttc tatcaacaca aattcaactc ttcaggctgt cctgagaggt tggccagctg 240  
 ccgacgcctt accgattttg cccaggggctg gggctc 276

<210> 118  
 <211> 531

&lt;212&gt; DNA

&lt;213&gt; Hepatitis C virus

&lt;400&gt; 118

```

ctgggggtcct atcagttatg ccaacggaag cggcctcgac gaacgcccct actgctggca 60
ctaccctcca agaccttggt gcattgtgcc cgcaaagagc gtgtgtggcc cggatatattg 120
cttcactccc agccccgtgg tgggtgggaac gaccgacagg tcgggcgcgc ctacctacag 180
ctgggggtgca aatgatacgg atgtcttcgt ccttaacaac accaggccac cgctgggcaa 240
ttggttcggt tgtacctgga tgaactcaac tggattcacc aaagtgtgcg gagcgcccc 300
ttgtgtcatc ggaggggtgg gcaacaacac cttgctctgc ccactgatt gcttcgcaa 360
acatccgga ggcacatact ctcggtgcgg ctccgggtccc tggattacac ccaggtgcat 420
ggtcgactac ccgtataggc tttggcacta tccttgtaac atcaattaca ccatattcaa 480
agtcaggatg tacgtgggag gggtcgagca caggctggaa gcggcctgca a 531

```

&lt;210&gt; 119

&lt;211&gt; 289

&lt;212&gt; DNA

&lt;213&gt; Hepatitis C virus

&lt;400&gt; 119

```

ctggcactac cctccaagac cttgtggcat tgtgcccga aagagcgtgt gtggcccgggt 60
atattgcttc actcccagcc ccgtgggtgg ggaacgacc gacaggtcgg gcgcgcctac 120
ctacagctgg ggtgcaaattg atacggatgt cttcgtcctt aacaacacca ggccaccgct 180
gggcaattgg ttcggttgta cctggatgaa ctcaactgga ttcaccaaag tgtgcggagc 240
gcccccttgt gtcacggag ggggtgggcaa caacaccttg ctctgcccc 289

```

&lt;210&gt; 120

&lt;211&gt; 836

&lt;212&gt; DNA

&lt;213&gt; Hepatitis C virus

&lt;400&gt; 120

```

gcccgcgtgcg gtgacatcat caacggcttg cccgtctctg cccgtagggg ccaggagata 60
ctgcttgggc cagccgacgg aatgggtctc aaggggtgga ggttgctggc gcccatacag 120
cgctacgccc agcagacgag aggcctccta ggggtgataa tcaccagcct gactggccgg 180
gacaaaaacc aagtggaggg tgaggtccag atcgtgtcaa ctgctaccca aaccttcctg 240
tgcaacgtgca tcaatggggt atgctggact gtctaacacg gggccgggaa gaggaccatc 300
gcatcaccca agggctcctgt catccagatg tataccaatg tggaccaaga ccttgtgggc 360
tgggccgctc ctcaagggtc ccgctcattg acaccctgta cctgcggtc ctcggacctt 420
tacctggtca cgaggcacgc cgatgtcatt cccgtgcgcc ggcgaggtga tagcaggggt 480
agcctgcttt cgcgccggcc catttcctac ttgaaaggct cctcgggggg tccgctgttg 540
tgccccgcgg gacacgcggt gggcctattc agggccgcgg tgtgcacccg tggagtggct 600
aaagcggtgg actttatccc tgtggagaac ctagggacaa ccatgagatc cccggtgttc 660
accgacaact cctctccacc agcagtgcc cagagcttcc aggtggccca cctgcatgct 720
cccaccggca gcggttaagag caccaaggtc ccggtgcgt acgcagccca gggctacaag 780
gtgttggtgc tcaaccctc tgttgctgca acgctgggct ttggtgctta catgtc 836

```

&lt;210&gt; 121

&lt;211&gt; 475

&lt;212&gt; DNA

&lt;213&gt; Hepatitis C virus

&lt;400&gt; 121

```

gcgcccggcga ggtgatagca ggggtagcct gctttcgccc cggcccattt cctacttgaa 60
aggctcctcg ggggttcgct tgttggtgcc cgcgggacac gccgtgggccc tattcagggc 120
cgcggtgtgc acccggtggag tggctaaagc ggtggacttt atccctgtgg agaacctagg 180
gacaaccatg agatccccgg tgttcacgga caactcctct ccaccagcag tgccccagag 240
cttccagggtg gccacctgc atgctccccc cggcagcggt aagagcacca aggtcccgcc 300

```

```

tgcgtacgca gccagggct acaagggtgtt ggtgctcaac ccctctgttg ctgcaacgct 360
gggcttttgt gcttacatgt ccaaggccca tggggttgat cctaatatca ggaccgggg 420
gagaacaatt accactggca gcccacacac gtactccacc tacggcaagt tcctt 475

```

<210> 122

<211> 790

<212> DNA

<213> Hepatitis C virus

<400> 122

```

tgatagcagg ggtagcctgc tttcgccccg gccattttcc tacttgaaag gtcctcggg 60
gggtccgctg ttgtgccccg cgggacacgc cgtgggccta ttcagggccg cgggtgtgcac 120
ccgtggagtg gctaaagcgg tggactttat ccctgtggag aacctagggg caaccatgag 180
atccccggtg ttcacggaca actcctctcc accagcagtg cccagagct tccaggtggc 240
ccacctgcat gtcctccacc gcagcggtaa gagcaccaag gtcccggctg cgtacgcagc 300
ccagggctac aagggtgttg tgetcaaccc ctctgttgct gcaacgctgg gctttggtgc 360
ttacatgtcc aaggcccatg gggttgatcc taatatcagg accgggggtg gaacaattac 420
cactggcagc cccatcacgt actccacct cggcaagttc cttgccgacg gcgggtgctc 480
aggaggtgct tatgacataa taatttgtga cgagtgccac tccacggatg ccacatccat 540
cttgggcata ggcaactgtc ttgaccaagc agagactgcg ggggcgagac tggttgtgct 600
cgccactgct acccctccgg gctcgcgcac tgtgtcccat cctaacatcg aggaggttgc 660
tctgtccacc accggagaga tcccccttta cggcaaggct atccccctcg aggtgatcaa 720
ggggggaaga catctcatct tctgccactc aaagaagaag tgcgacgagc tcgccgcgaa 780
gctggtcgca 790

```

<210> 123

<211> 583

<212> DNA

<213> Hepatitis C virus

<400> 123

```

ggacaactcc tctccaccag cagtgcceca gagcttccag gtggcccacc tgcattgtcc 60
caccggcagc ggtaagagca ccaaggctcc ggctgcgtac gcagcccagg gctacaagg 120
gttgggtgct aaccctctg ttgctgcaac gctgggcttt ggtgcttaca tgtccaaggc 180
ccatgggggt gatcctaata tcaggaccgg ggtgagaaca attaccactg gcagccccat 240
cacgtactcc acctacggca agttccttgc cgacggcggg tgctcaggag gtgcttatga 300
cataataatt tgtgacgagt gccactccac ggatgccaca tccatcttgg gcatcggcac 360
tgtccttgac caagcagaga ctgcgggggc gagactggtt gtgctcgcca ctgctacccc 420
tccgggctcc gtcactgtgt cccatcctaa catcgaggag gttgctctgt ccaccaccgg 480
agagatcccc ttttacggca aggctatccc cctcgagggt atcaaggggg gaagacatct 540
catcttctgc cactcaaaga agaagtgcga cgagctcgcc gcg 583

```

<210> 124

<211> 617

<212> DNA

<213> Hepatitis C virus

<400> 124

```

ccttgccgac ggcgggtgct caggaggtgc ttatgacata ataatttgtg acgagtgcc 60
ctccacggat gccacatcca tcttgggcat cggcactgtc cttgaccaag cagagactgc 120
gggggcgaga ctggttgtgc tcgccactgc taccctccg ggctccgtca ctgtgtccca 180
tcctaacatc gaggaggttg ctctgtccac caccggagag atccccctt acggcaaggc 240
tatccccctc gaggtgatca aggggggaag acatctcat ttctgccact caaagaagaa 300
gtgcgacgag ctgcgcgcga agctggctgc attgggcata aatgccgtgg cctactaccg 360
cggctcttgac gtgtctgtca tcccgaccag cggcgatgtt gtcgtcgtgt cgaccgatgc 420
tctcatgact ggctttaccg gcgacttcga ctctgtgata gactgcaaca cgtgtgtcac 480
tcagacagtc gatttcagcc ttgaccctac ctttaccatt gagacaacca cgctcccca 540
ggatgctgtc tccaggactc aacgccgggg caggactggc agggggaagc caggcatcta 600

```

F02080 16ET2650

tagattttgtg gcaccgg

617

&lt;210&gt; 125

&lt;211&gt; 559

&lt;212&gt; DNA

&lt;213&gt; Hepatitis C virus

&lt;400&gt; 125

```

ctccacggat gccacatcca tcttgggcat cggcactgtc cttgaccaag cagagactgc 60
gggggcgaga ctggttgtgc tcgccactgc taccctccg ggctccgtca ctgtgtccca 120
tcctaacatc gaggaggttg ctctgtccac caccggagag atcccccttt acggcaaggc 180
tatccccctc gaggtgatca aggggggaag acatctcatc ttctgccact caaagaagaa 240
gtgcgacgag ctgcgcgcga agctggctgc attgggcatc aatgccgtgg cctactaccg 300
cggctcttgac gtgtctgtca tcccgaccag cggcgatgtt gtcgtcgtgt cgaccgatgc 360
tctcatgact ggctttaccg gcgacttcga ctctgtgata gactgcaaca cgtgtgtcac 420
tcagacagtc gatttcagcc ttgaccctac ctttaccatt gagacaacca cgctccccc 480
ggatgctgtc tccaggactc aacgccgggg caggactggc agggggaagc caggcatcta 540
tagattttgtg gcaccggggg

```

&lt;210&gt; 126

&lt;211&gt; 475

&lt;212&gt; DNA

&lt;213&gt; Hepatitis C virus

&lt;400&gt; 126

```

tgtgatagac tgcaacacgt gtgtcactca gacagtcgat ttcagccttg accctacctt 60
taccattgag acaaccacgc tccccagga tgctgtctcc aggactcaac gccggggcag 120
gactggcagg gggaagccag gcatctatag atttgtggca ccgggggagc gccctcccg 180
catgttcgac tcgtccgtcc tctgtgagtg ctatgacgag ggctgtgctt ggtatgagct 240
cacgcccggc gagactacag ttaggctacg agcgtacatg aacaccccg ggcttcccg 300
gtgccaggac catcttgaat tttgggaggg cgtctttacg ggctcactc atatagatgc 360
ccacttttta tcccagacaa agcagagtgg ggagaacttt ccttacctgg tagcgtacca 420
agccaccgtg tgcgctaggg ctcaagcccc tccccatcg tgggaccaga tgtgg 475

```

&lt;210&gt; 127

&lt;211&gt; 390

&lt;212&gt; DNA

&lt;213&gt; Hepatitis C virus

&lt;400&gt; 127

```

tagattttgtg gcaccggggg agcgcccctc cggcatgttc gactcgtccg tcctctgtga 60
gtgctatgac gcgggctgtg cttggtatga gctcacgcc gccgagacta cagttaggct 120
acgagcgtac atgaacaccc cggggcttcc cgtgtgccag gaccatcttg aattttggga 180
gggcgtcttt acgggcctca ctcatataga tgcccacttt ttatcccaga caaagcagag 240
tggggagaac tttccttacc tggtagcgta ccaagccacc gtgtgcgcta gggctcaagc 300
ccctcccca tcgtgggacc agatgtggaa gtgtttgatc cgccttaaac ccaccctcca 360
tgggccaaca cccctgctat acagactggg

```

&lt;210&gt; 128

&lt;211&gt; 155

&lt;212&gt; DNA

&lt;213&gt; Hepatitis C virus

&lt;400&gt; 128

```

acgagcacct ggggtgctcg tggcgggcgtc ctggctgctc tggccgcgta ttgcctgtca 60
acaggctgcg tggatcatagt gggcaggatc gtcttgctcc ggaagccggc aattatacct 120
gacagggagg ttctctacca ggagttcgat gagat

```

<210> 129  
 <211> 56  
 <212> DNA  
 <213> Hepatitis C virus

<400> 129  
 ggctgctctg gccgcgtatt gcctgtcaac aggctgcgtg gtcatagtgg gcagga 56

<210> 130  
 <211> 625  
 <212> DNA  
 <213> Hepatitis C virus

<400> 130  
 ttttacagct gccgtcacca gccactaac cactggccaa accctcctct tcaacatatt 60  
 gggggggtgg gtggctgccc agctcgccgc ccccggtgcc gctactgcct ttgtgggtgc 120  
 tggcctagct ggcgccgcca tcggcagcgt tggactgggg aaggtcctcg tggacattct 180  
 tgcagggtat ggcgcgggcg tggcgggagc tcttgtagca ttcaagatca tgagcgggtga 240  
 ggtcccctcc acggaggacc tggccaatct gctgcccgc atcctctcgc ctggagccct 300  
 tgtagtcggt gtggtctgcg cagcaatact gcgcggcac gttggcccgg gcgagggggc 360  
 agtgcaatgg atgaaccggc taatagcctt cgctcccgg gggaaccatg tttccccac 420  
 gcactacgtg ccggagagcg atgcagccgc ccgctcact gccatactca gcagcctcac 480  
 gtgaaccag ctctgaggg gactgcatca gtggataagc tcggagtgtg cactccatg 540  
 ctccggttcc tggctaaggg acatctggga ctggatatgc gaggtgctga gcgactttaa 600  
 gacctggctg aaagccaagc tcatg 625

<210> 131  
 <211> 623  
 <212> DNA  
 <213> Hepatitis C virus

<400> 131  
 tactgccttt gtgggtgctg gcctagctgg cgccgccatc ggagcggttg gactggggaa 60  
 ggtcctcgtg gacattcttg cagggtatgg cgcgggcggtg gcgggagctc ttgtagcatt 120  
 caagatcatg agcggtgagg tcccctccac ggaggacctg gtcaatctgc tgcccgccat 180  
 cctctcgctt ggagcccttg tagtcggtgt ggtctgcgca gcaatactgc gccggcacgt 240  
 tggcccgggc gagggggcag tgcaatggat gaaccggcta atagccttcg cctcccgggg 300  
 gaaccatgtt tccccacgc actacgtgcc ggagagcgat gcagccgccc gcgtcactgc 360  
 catactcagc agcctcactg taaccacagct cctgaggcga ctgcatcagt ggataagctc 420  
 ggagtgtacc actccatgct ccggttcctg gctaaggagc atctgggact ggatatgcga 480  
 ggtgctgagc gactttaaga cctggctgaa agccaagctc atgccacaac tgcctgggat 540  
 tccctttgtg tcctgccagc gcgggtatag gggggtctgg cgaggagacg gcattatgca 600  
 cactcgtctg cactgtggag ctg 623

<210> 132  
 <211> 678  
 <212> DNA  
 <213> Hepatitis C virus

<400> 132  
 cctcgtggac attcttgcag ggtatggcgc gggcgtggcg ggagctcttg tagcattcaa 60  
 gatcatgagc ggtgaggtcc cctccacgga ggacctggtc aatctgctgc ccgccatcct 120  
 ctgcctgga gcccttgtag tcggtgtggt ctgcgcagca atactgcgcc ggcacgttgg 180  
 cccgggagcag ggggcagtgc aatggatgaa ccggctaata gccttcgcct cccgggggaa 240  
 ccatgtttcc cccacgcact acgtgccgga gagcgatgca gccgcccggc tactgccat 300  
 actcagcagc ctactgttaa cccagctcct gaggcgactg catcagtga taagctcggg 360

```

gtgtaccact ccatgctccg gttcctggct aagggacatc tgggactgga tatgagaggt 420
gctgagcgac tttaagacct ggctgaaagc caagctcatg ccacaactgc ctgggattcc 480
ctttgtgtcc tgccagcgcg ggtatagggg ggtctggcga ggagacggca ttatgcacac 540
tcgctgccac tgtggagctg agatcactgg acatgtcaaa aacgggacga tgaggatcgt 600
cggctcctagg acctgcagga acatgtggag tgggacgttc cccattaacg cctacaccac 660
gggcccctgt actcccct 678

```

<210> 133

<211> 436

<212> DNA

<213> Hepatitis C virus

<400> 133

```

tgcaggggtat ggcgcggggcg tggcggggagc tcttgtagca ttcaagatca tgagcgggtga 60
ggteccctcc acggaggacc tgggtcaatct gctgcccgcc atcctctcgc ctggagccct 120
tgtagtccgt gtggtctgcg cagcaatact gcgccggcac gttggcccg gcgagggggc 180
agtgaatgg atgaaccggc taatagcctt cgcctcccgg gggaaccatg tttccccac 240
gcactacgtg ccggagagcg atgcagccgc ccgcgtcact gccatactca gcagcctcac 300
tgtaaccag ctcctgaggc gactgcatca gtggataaag tcggagtgtg cactccatg 360
ctccggttcc tggctaaggg acatctggga ctggatatgc gaggtgctga gcgactttaa 420
gacctggctg aaagcc 436

```

<210> 134

<211> 164

<212> DNA

<213> Hepatitis C virus

<400> 134

```

agcccttgta gtcggtgtgg tctgcgagc aatactgcgc cggcacgttg gcccgggcga 60
gggggcagtg caatggatga accggcta atgccttcgcc tcccggggga accatgtttc 120
ccccacgcac tacgtgcccg agagcgatgc agccgcccg gtca 164

```

<210> 135

<211> 496

<212> DNA

<213> Hepatitis C virus

<400> 135

```

cgcctcccgg gggaaccatg tttccccac gcactacgtg ccggagagcg atgcagccgc 60
ccgcgtcact gccatactca gcagcctcac tgtaaccag ctcctgaggc gactgcatca 120
gtggataaag tcggagtgtg cactccatg ctccggttcc tggctaaggg acatctggga 180
ctggatatgc gaggtgctga gcgactttaa gacctggctg aaagccaagc tcatgccaca 240
actgcctggg attccctttg tgtcctgcca gcgcgggtat aggggggtct ggcgaggaga 300
cggcattatg cacactcgct gccactgtgg agctgagatc actggacatg tcaaaaacgg 360
gacgatgagg atcgctcggtc ctaggacctg caggaacatg tggagtggga cgttcccat 420
taacgcctac accacgggcc cctgtactcc ccttctcgcg ccgaactata agttcgcgct 480
gtggagggtg tctgca 496

```

<210> 136

<211> 926

<212> DNA

<213> Hepatitis C virus

<400> 136

```

tacgtgccgg agagcgatgc agccgcccg gtcactgcca tactcagcag ctcactgtgta 60
acccagctcc tgaggcgact gcatcagtg ataagctcgg agtgtaccac tccatgctcc 120
ggttctctgg taaggagcat ctgggactgg atatgcgagg tgctgagcga cttaagacc 180

```

F02080" / 6E12560

tggctgaaag	ccaagctcat	gccacaactg	cctgggattc	cctttgtgtc	ctgccagcgc	240
gggtataggg	gggtctggcg	aggagacggc	attatgcaca	ctcgtgcca	ctgtggagct	300
gagatcactg	gacatgtcaa	aaacgggacg	atgaggatcg	tcggtcctag	gacctgcagg	360
aacatgtgga	gtgggacgtt	ccccattaac	gcctacacca	cggggccctg	tactcccctt	420
cctgcgccga	actataagtt	cgcgctgtgg	aggggtgtctg	cagaggaata	cgtggagata	480
aggcgggtgg	gggacttcca	ctacgtatcg	ggtatgacta	ctgacaatct	taaagtccccg	540
tgccagatcc	catcgcccga	atTTTTcaca	gaattggacg	gggtgcgcct	acacaggttt	600
gcgccccctt	gcaagccctt	gctgcgggag	gaggatcat	tcagagtagg	actccacgag	660
taccgggtgg	ggtcgcaatt	acettgcgag	cccgaaccgg	acgtagccgt	gttgacgtcc	720
atgctcactg	atccctccca	tataacagca	gaggcgccg	ggagaagggt	ggcgagagg	780
tcacccccctt	ctatggccag	ctcctcggt	agccagctgt	ccgctccatc	tctcaaggca	840
acttgaccgc	ccaaccatga	ctccctgac	gccgagctca	tagaggctaa	cctcctgtgg	900
aggcaggaga	tgggcggcaa	catcac				926

&lt;210&gt; 137

&lt;211&gt; 850

&lt;212&gt; DNA

&lt;213&gt; Hepatitis C virus

&lt;400&gt; 137

actcagcagc	ctcactgtaa	cccagctcct	gaggcgactg	catcagtgga	taagctcgga	60
gtgtaccact	ccatgctccg	gttcctggct	aaggacatc	tgggactgga	tatgagaggt	120
gctgagcgac	tttaagacct	ggctgaaagc	caagctcatg	ccacaactgc	ctgggattcc	180
cctttgtgtcc	tgccagcgcg	ggtatagggg	ggtctggcga	ggagacggca	ttatgcacac	240
ctcgtgccac	tgtggagctg	agatcactgg	acatgtcaaa	aacgggacga	tgaggatcgt	300
tcggctcctag	acctgcagga	acatgtggag	tgggacgttc	cccattaacg	cctacaccac	360
tgggccccctg	actccccctt	ctgcgccgaa	ctataagttc	gcgctgtgga	gggtgtctgc	420
ctgaggaatac	gtggagataa	ggcgggtggg	ggacttccac	tacgtatcgg	gtatgactac	480
ctgacaatctt	aaatgcccg	gccagatccc	atcgcccga	tttttcacag	aattggacgg	540
gggtgcgccta	cacaggtttg	cgcccccttg	caagcccttg	ctgcgggagg	aggtatcatt	600
cagagtagga	ctccacgagt	acccggtggg	gtcgcaatta	ccttgcgagc	ccgaaccgga	660
cgtagccgtg	ttgacgtcca	tgctcactga	tccctcccat	ataacagcag	aggcggccgg	720
gagaagggtt	gcgagagggg	cacccccctt	tatggccagc	tccctcggtc	gccagctgtc	780
cgtctccatct	ctcaaggcaa	cttgaccgcg	caaccatgac	tcccctgacg	ccgagctcat	840
agaggctaac						850

&lt;210&gt; 138

&lt;211&gt; 749

&lt;212&gt; DNA

&lt;213&gt; Hepatitis C virus

&lt;400&gt; 138

cagcctcact	gtaacccagc	tcctgaggcg	actgcattcag	tggataagct	cggagtgtac	60
cactccatgc	tccggttcct	ggctaaggga	catctgggac	tggatatgcg	aggtgctgag	120
cgactttaag	acctggctga	aagccaagct	catgccacaa	ctgcctggga	ttccctttgt	180
gtcctgccag	cgcggttata	ggggggtctg	gcgaggagac	ggcattatgc	acactcgctg	240
ccactgtgga	gctgagatca	ctggacatgt	caaaaacggg	acgatgagga	tcgtcggtcc	300
taggacctgc	aggaacatgt	ggagtgggac	gttccccatt	aacgcctaca	ccacggggccc	360
ctgtactccc	cttcctgcgc	cgaactataa	gttcgcgctg	tggagggtgt	ctgcagagga	420
atacgtggag	ataaggcggg	tgggggactt	ccactacgta	tcgggtatga	ctactgacaa	480
tcttaaattgc	ccgtgccaga	tcccatcgcc	cgaatttttc	acagaatttg	acgggggtgcg	540
cctacacagg	tttgcgcccc	cttgcaagcc	cttgctgcgg	gaggaggtat	cattcagagt	600
aggactccac	gagtaccggg	tggggtcgca	attaccttgc	gagcccgaac	cggacgtagc	660
cgtgttgacg	tccatgtca	ctgatccctc	ccatataaca	gcagaggcgg	ccgggagaag	720
ggtggcgaga	gggtcacccc	cttctatgg				749

&lt;210&gt; 139

&lt;211&gt; 257

<212> DNA

<213> Hepatitis C virus

<400> 139

```
gacctggctg aaagccaagc tcatgccaca actgcctggg attccctttg tgcctgccca 60
gcgcggttat aggggggtct ggcgaggaga cggcattatg cacactcgct gccactgtgg 120
agctgagatc actggacatg tcaaaaacgg gacgatgagg atcgtcggtc ctaggacctg 180
caggaacatg tggagtggga cgttcccat taacgcctac accacggggc cctgtactcc 240
ccttcctgcg ccgaact 257
```

<210> 140

<211> 285

<212> DNA

<213> Hepatitis C virus

<400> 140

```
tgagatcact ggacatgtca aaaacgggac gatgaggatc gtcggtccta ggacctgcag 60
gaacatgtgg agtgggacgt tccccattaa cgcctacacc acggggccct gtactccct 120
tcctgcgcg aactataagt tcgcgctgtg gaggggtgtct gcagaggaat acgtggagat 180
aaggcggtg ggggacttcc actacgtatc ggggtatgact actgacaatc ttaaattgcc 240
gtgccagatc ccatcgccc aatttttcac agaattggac ggggt 285
```

<210> 141

<211> 228

<212> DNA

<213> Hepatitis C virus

<400> 141

```
catagaggct aacctcctgt ggaggcagga gatgggcggc aacatcacca gggttgagtc 60
agagaacaaa gtggtgattc tggactcctt cgatccgctt gtggcagagg aggatgagcg 120
ggaggtctcc gtacctgcag aaattctgcg gaagtctcgg agattcgccc gggccctgcc 180
cgtctgggcg cggccggact acaaccccc gctagtagag acgtggaa 228
```

<210> 142

<211> 273

<212> DNA

<213> Hepatitis C virus

<400> 142

```
ccatggctgc ccgtaccac ctccacggtc cctcctctgt cctccgcctc ggaaaaagcg 60
tacggtggtc ctacccgaat caaccctatc tactgccttg gccgagcttg ccacccaaaag 120
ttttggcagc tcctcaactt ccggcattac gggcgacaat acgacaacat cctctgagcc 180
cgcccccttct ggctgcccc ccgactccga cgttgagtc tattcttcca tgccccccct 240
ggagggggag cctggggatc cggatctcag cga 273
```

<210> 143

<211> 412

<212> DNA

<213> Hepatitis C virus

<400> 143

```
ttcctggaca ggcgcaactcgc tcaccccgctg cgtgcggaa gaacaaaaac tgcccatcaa 60
cgcaactgagc aactcgttgc tacgccatca caatctggtg tattccacca cttcacgcag 120
tgcttgccaa aggcagaaga aagtcacatt tgacagactg caagttctgg acagccatta 180
ccaggacgtg ctcaaggagg tcaaagcagc ggcgtcaaaa gtgaaggcta acttgctatc 240
cgtagaggaa gcttgagcc tgacgcccc acattcagcc aaatccaagt ttggctatgg 300
ggcaaaagac gtccgttgcc atgccagaaa ggccgtagcc cacatcaact ccgtgtggaa 360
```

agaccttctg gaagacagtg taacaccaat agacactacc atcatggcca ag

412

<210> 144

<211> 903

<212> DNA

<213> Hepatitis C virus

<400> 144

ggctaacttg ctatccgtag aggaagcttg cagcctgacg ccccccacatt cagccaaatc 60  
 caagtttggc tatggggcaa aagacgtccg ttgccatgcc agaaaggccg tagcccatat 120  
 caactccgtg tggaaagacc ttctggaaga cagtgtataa ccaatagaca ctaccatcat 180  
 ggccaagaac gaggttttct gcgttcagcc tgagaagggg ggctcgtaac cagctcgtct 240  
 catcgtgttc cccgacctgg gcgtgcgcgt gtgcgagaag atggccctgt acgacgtggt 300  
 tagcaagctc cccctggccg tgatgggaag ctccctacgga ttccaatact caccaggaca 360  
 gcgggttgaa ttctcgtgc aagcgtggaa gtccaagaag accccgatgg ggttctcgt 420  
 tgataccgcg tgttttgact ccacagtcac tgagagcgac atccgtacgg aggaggcaat 480  
 ttaccaatgt tgtgacctgg accccaagc ccgctgggac atcaagtccc tactgagag 540  
 gctttatgtt gggggccctc ttaccaattc aaggggggaa aactgcggct accgcagggt 600  
 ccgcgcgagc ggcgactga caactagctg tggtaacacc ctacttgct acatcaaggc 660  
 ccgggcagcc tgtcgagccg cagggtcca ggactgcacc atgctcgtgt gtggcgacga 720  
 cttagtcgtt atctgtgaaa gtgcgggggt ccaggaggac gcggcgagcc tgagagcctt 780  
 cagggaggct atgaccaggt actccgcccc ccccggggac ccccacaaac cagaatacga 840  
 cttggagctt ataacatcat gtcctccaa cgtgtcagtc gcccacgacg gcgctggaaa 900  
 ag 903

<210> 145

<211> 600

<212> DNA

<213> Hepatitis C virus

<400> 145

gaggaagct tgcagcctga cgccccca ttcagccaaa tccaagtttg gctatggggc 60  
 aaaagacgtc cgttgccatg ccagaaaggc cgtagcccac atcaactccg tgtggaaaaga 120  
 ccttctggaa gacagtgtaa caccaataga cactaccatc atggccaaga acgaggtttt 180  
 tgcggttcag cctgagaagg ggggtcgtaa gccagctcgt ctcatcgtgt tccccgacct 240  
 gggcgctgcgc gtgtgcgaga agatggccct gtacgacgtg gttagcaagc tccccctggc 300  
 tegtgtggga agctcctacg gattccaata ctaccaggga cagcgggttg aattcctcgt 360  
 gcaagcgtgg aagtccaaga agaccccgat ggggttctcg tatgataccc gctgttttga 420  
 ctccacagtc actgagagcg acatccgtac ggaggaggca atttaccat gttgtgacct 480  
 ggacccccaa gccgcgtgg ccatcaagtc cctcactgag aggccttatg ttgggggccc 540  
 tcttaccat tcaagggggg aaaactgcgg ctaccgcagg tgccgcgcga gcggcgact 600

<210> 146

<211> 781

<212> DNA

<213> Hepatitis C virus

<400> 146

ccttctggaa gacagtgtaa caccaataga cactaccatc atggccaaga acgaggtttt 60  
 ctgcgttcag cctgagaagg ggggtcgtaa gccagctcgt ctcatcgtgt tccccgacct 120  
 gggcgctgcgc gtgtgcgaga agatggccct gtacgacgtg gttagcaagc tccccctggc 180  
 cgtgatggga agctcctacg gattccaata ctaccaggga cagcgggttg aattcctcgt 240  
 gcaagcgtgg aagtccaaga agaccccgat ggggttctcg tatgataccc gctgttttga 300  
 ctccacagtc actgagagcg acatccgtac ggaggaggca atttaccat gttgtgacct 360  
 ggacccccaa gccgcgtgg ccatcaagtc cctcactgag aggccttatg ttgggggccc 420  
 tcttaccat tcaagggggg aaaactgcgg ctaccgcagg tgccgcgcga gcggcgact 480  
 gacaactagc tgtggtaaca ccctcacttg ctacatcaag gcccgggcag cctgtcgagc 540  
 cgcagggtc caggactgca ccatgctcgt gtgtggcgac gacttagtcg ttatctgtga 600

```

aagtgcgggg gtccaggagg acgcggcgag cctgagagcc ttcacggagg ctatgaccag 660
gtactccgcc ccccccgggg acccccacac accagaatac gacttggagc ttataacatc 720
atgctcctcc aacgtgtcag tcgcccacga cggcgctgga aagaggggtct actaccttac 780
c 781

```

<210> 147

<211> 382

<212> DNA

<213> Hepatitis C virus

<400> 147

```

cgttatctgt gaaagtgcgg ggggtccagga ggacgcggcg agcctgagag ccttcacgga 60
ggctatgacc aggtactccg ccccccccg ggacccccca caaccagaat acgacttgga 120
gcttataaca tcatgtctct ccaacgtgtc agtcgccccac gacggcgctg gaaagaggggt 180
ctactacctt acccgtgacc ctacaacccc cctcgcgaga gccgcgtggg agacagcaag 240
acacactcca gtcaattcct ggctaggcaa cataatcatg tttgccccca cactgtgggc 300
gaggatgata ctgatgaccc atttctttag cgtcctcata gccagggatc agcttgaaca 360
ggctcttaac tgtgagatct ac 382

```

<210> 148

<211> 268

<212> DNA

<213> Hepatitis C virus

<400> 148

```

tcgtgtcagtc gccacgacg gcgctggaaa gaggggtctac taccttaccg gtgaccctac 60
aacccccctc gcgagagccg cgtgggagac agcaagacac actccagtca attcctgggt 120
aggcaacata atcatgtttg cccccacact gtgggcgagg atgatactga tgacccattt 180
ctttagcgtc ctcatagcca gggatcagct tgaacaggct cttaactgtg agatctacgg 240
agcctgtctac tccatagaac cactggat 268

```

<210> 149

<211> 222

<212> DNA

<213> Hepatitis C virus

<400> 149

```

actccatggc ctacgcgcat tttcactcca cagttactct ccaggtgaaa tcaatagggt 60
ggccgcatgc ctacagaaaac ttgggggtccc gcccttgcca gcttggagac accgggcccg 120
gagcgtccgc gctaggcttc tgtccagagg aggcagggt gccatatgtg gcaagtacct 180
cttcaactgg gcagtaagaa caaagctcaa actcactcca at 222

```

<210> 150

<211> 192

<212> DNA

<213> Hepatitis C virus

<400> 150

```

ctctccagggt gaaatcaata ggggtggccgc atgcctcaga aaacttgggg tcccgcctt 60
gcgagcttgg agacaccggg cccggagcgt ccgcgctagg cttctgtcca gaggaggcag 120
ggctgccata tgtggcaagt acctcttcaa ctgggcagta agaacaaagc tcaaactcac 180
tccaatagcg gc 192

```

<210> 151

<211> 10

<212> DNA

<220>

```
<400> 151
gggccacgaa
```

10

<210> 152

<211> 13

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: linker  
sequence

<400> 152  
ttcgtggccc ctg

13

```
<210> 153  
<211> 138  
<212> DNA  
<213> Artificial Sequence
```

 $\langle 220 \rangle$ 

<223> Description of Artificial Sequence: pP6 vector sequence

```

<400> 153
ctagccatgg cgcaggggc cgcggccgca ctagtggga tccttaatta aagggccact 60
ggggccccc gtaccggcgt ccccggcgc ggcgtgatca cccctaggaa ttaatttccc 120
ggtgaccccg qgggaqct
138

```

$$\leq 210 \rangle \quad 154$$

<211> 128

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: pB5 vector sequence

```
<400> 154
catggccgca ggggccgcgg ccgcactagt ggggatcctt aattaaaggg ccactggggc 60
cccccggcgt ccccggcgcc ggcgtgatca cccctaggaa ttaatttccc ggtgaccccc 120
ggggaqct                                     128
```

<210> 155

<211> 20

<212> DNA

<213> Artificial Sequence

 $\langle 220 \rangle$ 

<223> Description of Artificial Sequence: primer

<400> 155  
gcgtttggaa tcactacagg

20

<210> 156  
<211> 19  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: primer

<400> 156  
cacgatgcac gttgaagtg

19

09921397-080201  
T02080-16E12660